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# LCD TV

# SERVICE MANUAL

CHASSIS : ML-042A

**MODEL: 15LW1R (15LW1R-MD)**

## CAUTION

BEFORE SERVICING THE CHASSIS,  
READ THE SAFETY PRECAUTIONS IN THIS MANUAL.



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# SAFETY PRECAUTIONS

## IMPORTANT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by  $\triangle$  in the Schematic Diagram and Replacement Parts List.

It is essential that these special safety parts should be replaced with the same components as recommended in this manual to prevent X-RADIATION, Shock, Fire, or other Hazards.

Do not modify the original design without permission of manufacturer.

### General Guidance

An **isolation Transformer** should always be used during the servicing of a receiver whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks.

It will also protect the receiver and its components from being damaged by accidental shorts of the circuitry that may be inadvertently introduced during the service operation.

If any fuse (or Fusible Resistor) in this TV receiver is blown, replace it with the specified.

When replacing a high wattage resistor (Oxide Metal Film Resistor, over 1W), keep the resistor 10mm away from PCB.

Keep wires away from high voltage or high temperature parts.

### X-RAY Radiation

#### Warning:

The source of X-RAY RADIATION in this TV receiver is the High Voltage Section and the LCD PANEL.

For continued X-RAY RADIATION protection, the replacement panel must be the same type panel as specified in the Replacement Parts List.

To determine the presence of high voltage, use an accurate high impedance HV meter.

Adjust brightness, color, contrast controls to minimum.

Measure the high voltage.

The meter reading should indicate

23.5 ; 1.5KV: 14-19 inch, 26 ; 1.5KV: 19-21 inch,

29.0 ; 1.5KV: 25-29 inch, 30.0 ; 1.5KV: 32 inch

If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.

### Before returning the receiver to the customer,

always perform an **AC leakage current check** on the exposed metallic parts of the cabinet, such as antennas, terminals, etc., to be sure the set is safe to operate without damage of electrical shock.

#### Leakage Current Cold Check(Antenna Cold Check)

With the instrument AC plug removed from AC source, connect an electrical jumper across the two AC plug prongs. Place the AC switch in the on position, connect one lead of ohm-meter to the AC plug prongs tied together and touch other ohm-meter lead in turn to each exposed metallic parts such as antenna terminals, phone jacks, etc.

If the exposed metallic part has a return path to the chassis, the measured resistance should be between  $1M\Omega$  and  $5.2M\Omega$ .

When the exposed metal has no return path to the chassis the reading must be infinite.

An other abnormality exists that must be corrected before the receiver is returned to the customer.

#### Leakage Current Hot Check (See below Figure)

Plug the AC cord directly into the AC outlet.

**Do not use a line Isolation Transformer during this check.**

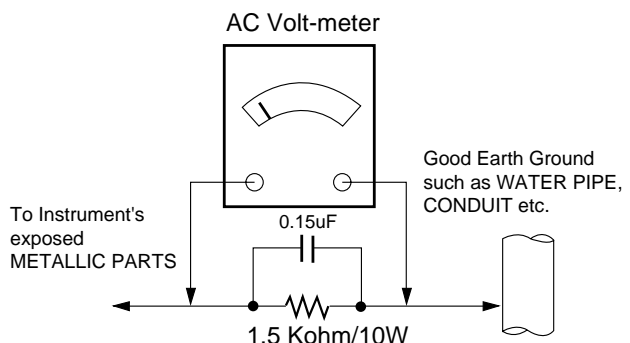
Connect 1.5K/10watt resistor in parallel with a 0.15uF capacitor between a known good earth ground (Water Pipe, Conduit, etc.) and the exposed metallic parts.

Measure the AC voltage across the resistor using AC voltmeter with 1000 ohms/volt or more sensitivity.

Reverse plug the AC cord into the AC outlet and repeat AC voltage measurements for each exposed metallic part. Any voltage measured must not exceed 0.75 volt RMS which corresponds to 0.5mA.

In case any measurement is out of the limits specified, there is possibility of shock hazard and the set must be checked and repaired before it is returned to the customer.

#### Leakage Current Hot Check circuit



# SERVICING PRECAUTIONS

**CAUTION:** Before servicing receivers covered by this service manual and its supplements and addenda, read and follow the *SAFETY PRECAUTIONS* on page 3 of this publication.

**NOTE:** If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 3 of this publication, always follow the safety precautions. Remember: Safety First.

## General Servicing Precautions

1. Always unplug the receiver AC power cord from the AC power source before;
  - a. Removing or reinstalling any component, circuit board module or any other receiver assembly.
  - b. Disconnecting or reconnecting any receiver electrical plug or other electrical connection.
  - c. Connecting a test substitute in parallel with an electrolytic capacitor in the receiver.**CAUTION:** A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.

2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM, etc) equipped with a suitable high voltage probe. Do not test high voltage by "drawing an arc".

3. Do not spray chemicals on or near this receiver or any of its assemblies.

4. Unless specified otherwise in this service manual, clean electrical contacts only by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable non-abrasive applicator; 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength)

**CAUTION:** This is a flammable mixture.

Unless specified otherwise in this service manual, lubrication of contacts is not required.

5. Do not defeat any plug/socket B+ voltage interlocks with which receivers covered by this service manual might be equipped.
6. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.
7. Always connect the test receiver ground lead to the receiver chassis ground before connecting the test receiver positive lead.

Always remove the test receiver ground lead last.

8. Use with this receiver only the test fixtures specified in this service manual.

**CAUTION:** Do not connect the test fixture ground strap to any heat sink in this receiver.

## Electrostatically Sensitive (ES) Devices

Some semiconductor (solid-state) devices can be damaged easily by static electricity. Such components commonly are called *Electrostatically Sensitive (ES) Devices*. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed to prevent potential shock reasons prior to applying power to the

unit under test.

2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.  
**CAUTION:** Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

## General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range or 500°F to 600°F.
2. Use an appropriate gauge of RMA resin-core solder composed of 60 parts tin/40 parts lead.
3. Keep the soldering iron tip clean and well tinned.
4. Thoroughly clean the surfaces to be soldered. Use a mall wire-bristle (0.5 inch, or 1.25cm) brush with a metal handle. Do not use freon-propelled spray-on cleaners.
5. Use the following unsoldering technique
  - a. Allow the soldering iron tip to reach normal temperature. (500°F to 600°F)
  - b. Heat the component lead until the solder melts.
  - c. Quickly draw the melted solder with an anti-static, suction-type solder removal device or with solder braid.  
**CAUTION:** Work quickly to avoid overheating the circuitboard printed foil.
6. Use the following soldering technique.
  - a. Allow the soldering iron tip to reach a normal temperature (500°F to 600°F)
  - b. First, hold the soldering iron tip and solder the strand against the component lead until the solder melts.
  - c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.  
**CAUTION:** Work quickly to avoid overheating the circuit board printed foil.
- d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.

## IC Remove/Replacement

Some chassis circuit boards have slotted holes (oblong) through which the IC leads are inserted and then bent flat against the circuit foil. When holes are the slotted type, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 and 6 above.

### Removal

1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.
2. Draw away the melted solder with an anti-static suction-type solder removal device (or with solder braid) before removing the IC.

### Replacement

1. Carefully insert the replacement IC in the circuit board.
2. Carefully bend each IC lead against the circuit foil pad and solder it.
3. Clean the soldered areas with a small wire-bristle brush.  
(It is not necessary to reapply acrylic coating to the areas).

## "Small-Signal" Discrete Transistor

### Removal/Replacement

1. Remove the defective transistor by clipping its leads as close as possible to the component body.
2. Bend into a "U" shape the end of each of three leads remaining on the circuit board.
3. Bend into a "U" shape the replacement transistor leads.
4. Connect the replacement transistor leads to the corresponding leads extending from the circuit board and crimp the "U" with long nose pliers to insure metal to metal contact then solder each connection.

## Power Output, Transistor Device

### Removal/Replacement

1. Heat and remove all solder from around the transistor leads.
2. Remove the heat sink mounting screw (if so equipped).
3. Carefully remove the transistor from the heat sink of the circuit board.
4. Insert new transistor in the circuit board.
5. Solder each transistor lead, and clip off excess lead.
6. Replace heat sink.

## Diode Removal/Replacement

1. Remove defective diode by clipping its leads as close as possible to diode body.
2. Bend the two remaining leads perpendicular y to the circuit board.
3. Observing diode polarity, wrap each lead of the new diode around the corresponding lead on the circuit board.
4. Securely crimp each connection and solder it.
5. Inspect (on the circuit board copper side) the solder joints of the two "original" leads. If they are not shiny, reheat them and if necessary, apply additional solder.

## Fuse and Conventional Resistor

### Removal/Replacement

1. Clip each fuse or resistor lead at top of the circuit board hollow stake.
2. Securely crimp the leads of replacement component around notch at stake top.
3. Solder the connections.

**CAUTION:** Maintain original spacing between the replaced component and adjacent components and the circuit board to prevent excessive component temperatures.

## Circuit Board Foil Repair

Excessive heat applied to the copper foil of any printed circuit board will weaken the adhesive that bonds the foil to the circuit board causing the foil to separate from or "lift-off" the board. The following guidelines and procedures should be followed whenever this condition is encountered.

### At IC Connections

To repair a defective copper pattern at IC connections use the following procedure to install a jumper wire on the copper pattern side of the circuit board. (Use this technique only on IC connections).

1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary).
2. carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.
3. Bend a small "U" in one end of a small gauge jumper wire and carefully crimp it around the IC pin. Solder the IC connection.
4. Route the jumper wire along the path of the out-away copper pattern and let it overlap the previously scraped end of the good copper pattern. Solder the overlapped area and clip off any excess jumper wire.

### At Other Connections

Use the following technique to repair the defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.

1. Remove the defective copper pattern with a sharp knife.  
Remove at least 1/4 inch of copper, to ensure that a hazardous condition will not exist if the jumper wire opens.
2. Trace along the copper pattern from both sides of the pattern break and locate the nearest component that is directly connected to the affected copper pattern.
3. Connect insulated 20-gauge jumper wire from the lead of the nearest component on one side of the pattern break to the lead of the nearest component on the other side.  
Carefully crimp and solder the connections.

**CAUTION:** Be sure the insulated jumper wire is dressed so the it does not touch components or sharp edges.

# SPECIFICATION

NOTE : Specifications and others are subject to change without notice for improvement.

## 1. Application range

This specification is applied to ML-042A chassis.

## 2. Requirement for Test

Testing for standard of each part must be followed in below condition.

- (1) Temperature: 25°C ± 2°C
- (2) Humidity: 65% ± 10%
- (3) Power: Standard input voltage (AC 100-240V, 50/60Hz)
- (4) Measurement must be performed after heat-run more than 30min.
- (5) Adjusting standard for this chassis is followed a special standard.

## 3.General Specification

No.	Item	Specification	Remark
1	Maker	LPL	LPL
	Type	TFT Color LCD Module	
	ActiveDisplay Area	15.0 inches(380.16mm) diagonal(Aspect 4:3)	
	Pixel Pitch [mm]	0.297mm(H)x0.297mm(V)xRGB	
	Electrical Interface	LVDS	
	Color Depth	6BIT WITH FRC, 16,777,216 colors	
	Size [mm]	304.128(H)x228.096(V)	
	Surface Treatment	Anti Glare(3H)	
	Back light Unit	4 CCFL	

## 4. Mechanical Specification

No	Item		Content			Remark
1	Product		Width (W)	Length (D)	Height (H)	
	Dimension	Before Packing(RX)	454 mm	201 mm	340 mm	With Stand
		Before Packing(TX)	110 mm	245 mm	243 mm	
2	Product	Before Packing(SET.RX/TX)	5.4kg/1.6kg			With battery
	Weight	Before Packing(BOX)	10.0kg			

## 5. Engineering Specification

No	Item	Content				Remark	
1	Response Time	Rise Time (typ) : 5ms					
2	TX LED			Power LED		Blue LED	
		POWER off mode (No adapter)		Off		Off	
		POWER off mode (adapter)		Amber		Off	
		POWER on mode (network disconnected)		Green		Off	
		POWER on mode (network connected)		Green		Blue	
3	RX battery LED	Battery	No adapter	Power on	30~100%	Green	
					10~30%	Yellow	
					10% under	Blink Yellow	
				Power off/idle	X	Off	
			adapter (charging)	Power On/off	0~97%	0~97%	
			adapter (charging complete)	Power On/off	98% over	Green	
		No battery	-	-	-	Off	
4	Rx Wireless Lan LED	Network connecting		Green			
		Network disconnecting		off			
5	RX Power LED	Power on		Blue		Dark After 5s	
		Power off		off			
6	Operating	1) Temp : 5~35 Deg					
	Environment	2) Humidity : 85%					
7	Storage	1) Temp : -20 ~ 60 deg					
	Environment	2) Humidity : 85 %					
8	MTBF	50,000 Hrs With 90% Confidence Level					Lame Life: 40,000 Hr(Min)
9	Rx	Specification					remark
	Normal(Power S/W On)	-		Blue		i 72W	Blue
	Power Switch Off	-		OFF		i 1W	OFF

## 6. Optical Character

No	Item	Criteria					Remark
1	Viewing Angle (R <sub>i</sub> ~10)	Horizontal(R/L) : 65 <sub>i</sub> /65 <sub>i</sub> (Typ.)					
		Vertical(Top/Bottom) : 45 <sub>i</sub> /55 <sub>i</sub> (Typ.)					
2	Luminance	Average Luminance (cd/m2)		450(typ)			
		Luminance Uniformity(%)					
3	Contrast Ratio	400(normal)					
4	CIE Color Coordinates			Min.	Normal	Max.	
		White	W <sub>x</sub>	0.286	0.289	0.292	
			W <sub>y</sub>	0.301	0.304	0.307	
		Red	R <sub>x</sub>	0.616	0.619	0.622	
			R <sub>y</sub>	0.340	0.343	0.346	
		Green	G <sub>x</sub>	0.295	0.298	0.301	
			R <sub>y</sub>	0.575	0.578	0.581	
		Blue	B <sub>x</sub>	0.146	0.149	0.153	
		B <sub>y</sub>	0.079	0.082	0.085		
5	Grey Level Relative Brightness	n	Gs (S)	Relative Luminance (%)			Notes
				Typ.			
		1	L0	0.22			
		2	L15	0.34			
		3	L31	0.81			
		4	L47	2.10			
		5	L63	4.29			
		6	L79	7.46			
		7	L95	11.4			
		8	L111	16.4			
		9	L127	22.1			
		10	L143	28.7			
		11	L159	36.4			
		12	L175	45.1			
		13	L191	55.4			
		14	L207	66.2			
		15	L223	78.0			
		16	L239	90.4			
		17	L255	100			



# DISASSEMBLY

1



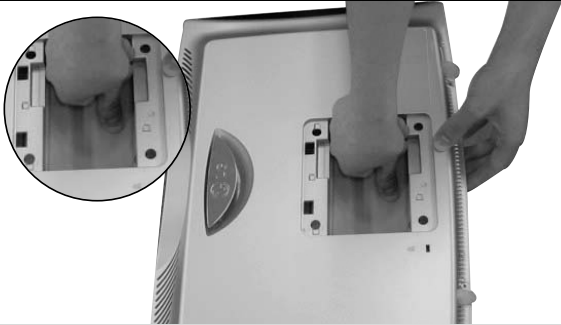
- Remove screws attached to stand by coin or (-) driver.
- Disassembly Stand from Set.

2



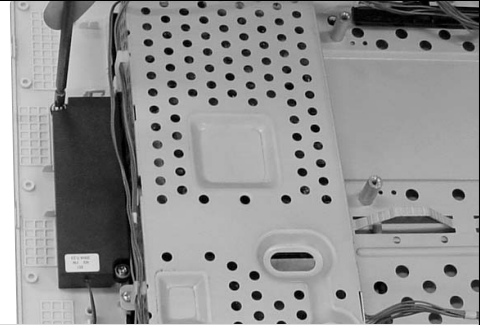
- Remove the battery.

3



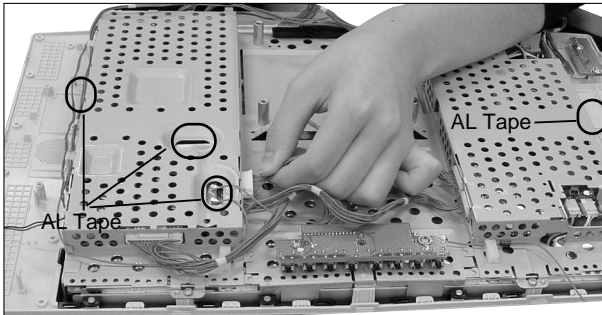
- Disassembly Back cover after press the battery as pull the edge of Back cover by hand as the picture.

4



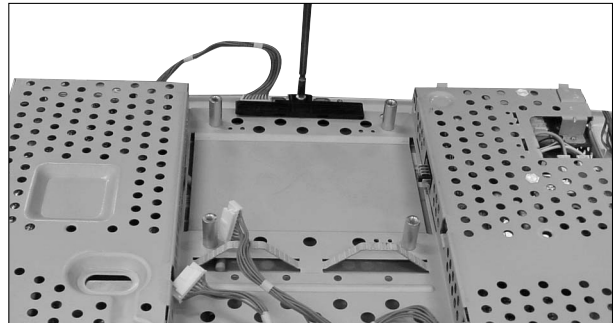
- Remove Speaker's screws of both sides.

5



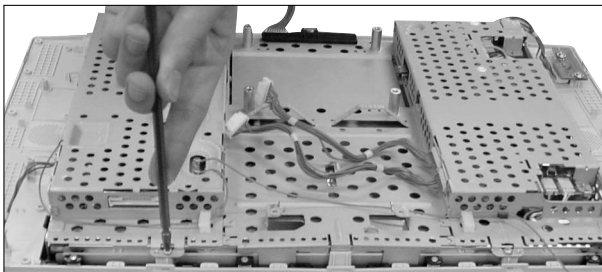
- Divide all AL TAPES and connectors from Metal Frame.

6



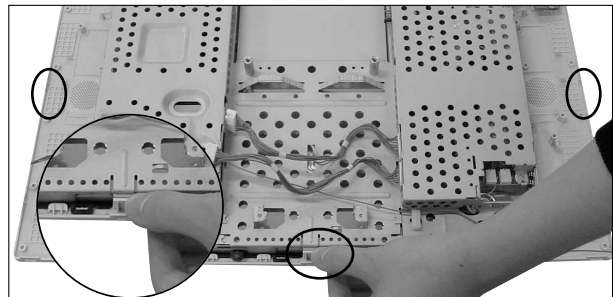
- Remove the POWER PCB screw.

7



- Remove the serews between metal frame and cabinet.

8



- Press latches on top-center and both side of cabinet and then disassembly metal frame from the cabinet.
- Remove the screws on both side of metal frame, disassembly metal frame and module.

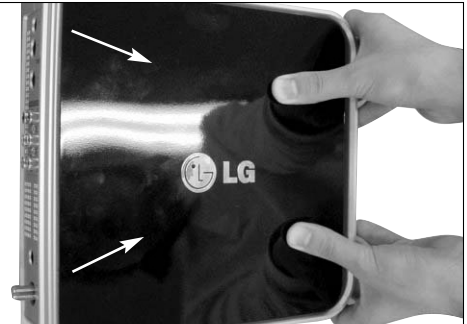
## DISASSEMBLY

1



- Remove screws in stand.

2



- Push the cover to arrow direction.

3



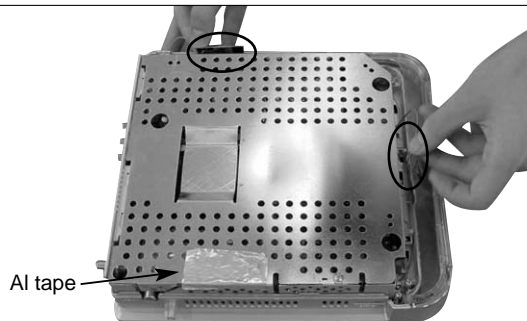
- Lift cover.

4



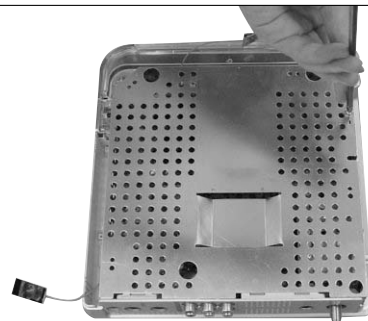
- Remove screws.

5



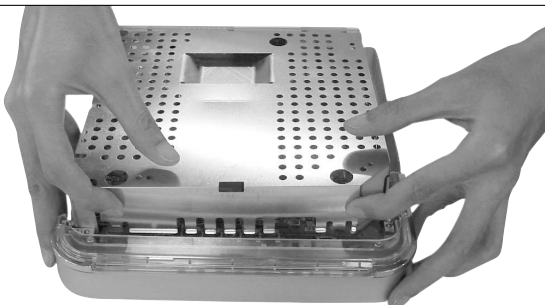
- Remove antenna and AL Tape as the picture.

6



- Remove screws of Rear shield.

7



- Lift Rear shield as the picture.

# SERVICE TEST PROGRAM

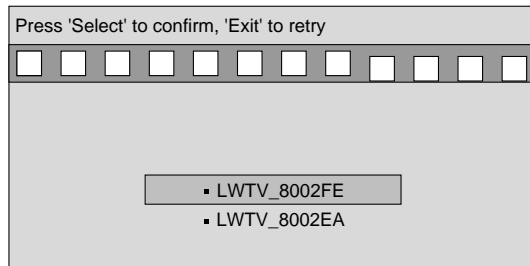
## 1. Test Items

(MICOM : 1.3.0, ROMFS : 1.2 12/21 ENG), TX SSID : 80035E  
(Rx Micom/Rx Flash/ Version Display), TX SSID display

- **LED** : Rx LED Operation Test
- **Volume** : Speaker Operation Test/Headphone Operation Test(for headphone connection)
- **Brightness/Contrast** : Rx SVC Mode Brightness/Contrast control
- **Button** : Rx Key Control Operation Test
- **Remocon** : Remocon Operation Test
- **Battery** : Battery information display
- **RX Longrun** : Audio(Continuous Tone)/ Video(straight Color Bar)
- **RX Factory Default** : RX Flash Data Initialization: Volume, Brightness
- **Initialize SSID** : Initialization of TX SSID connected with RX
- **TX** : Tx SSID Display/VCTI,Tx Flash Version Display Long Run/Tx VCTI Data Initialization
- **S/W Upgrade** : Execute Rx Flash Update through AP(Access Point)
- **Canadian VCHIP** : Default(No)
- **Dot Defect** : Full Black/White Pattern to check Dot Defect of the LCD module

## 2. SSID input screen

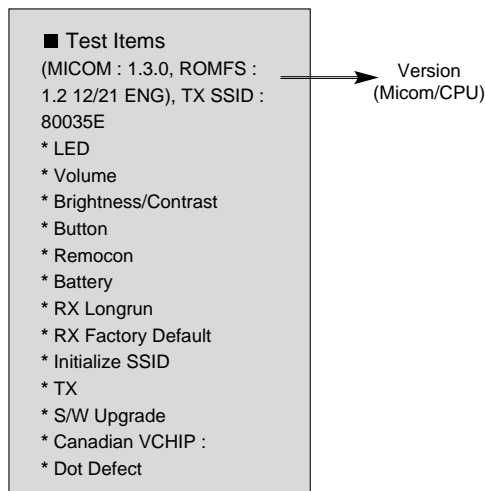
\* Screen appearing where SSID is not saved



### (1) Test initial screen

- Method to enter into the test screen

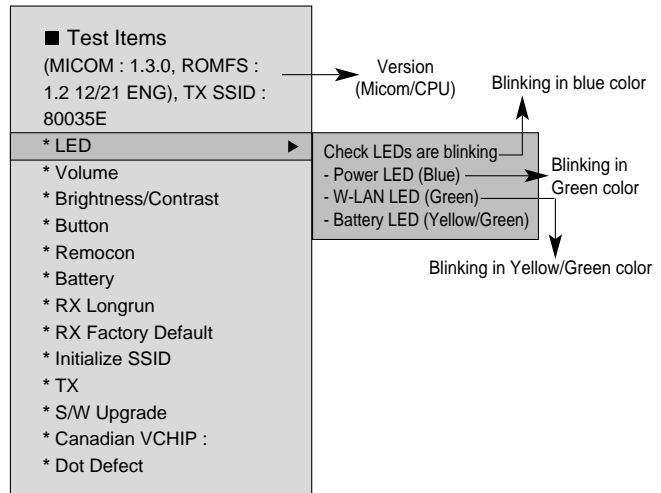
: Click the IN-START button of the Adjust Remocon (P/N:105-201M) in the RX Power ON status(operable 10 seconds after On).



=> Click the Enter button of the REMOCON in order to select detailed menu

## (2) LED Test

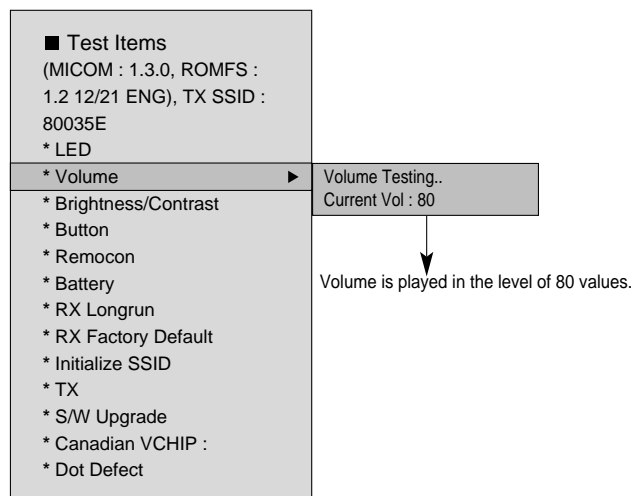
### - LED Operation Test of Rx



**=> Click the Exit button of the REMOCON to return to the previous initialization menu**

### (3) VOLUME Test

### - Speaker Operation Test

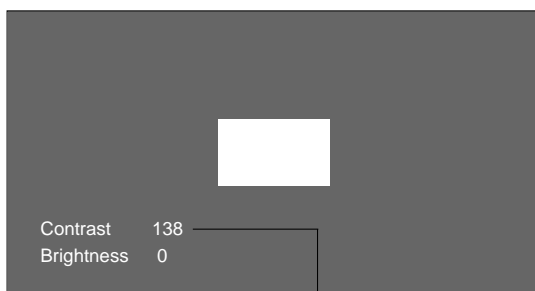
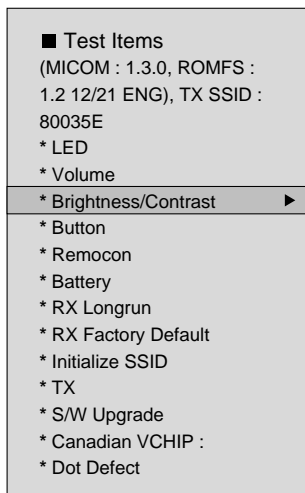


**=> Click the Exit button of the REMOCON to return to the previous initialization menu**

#### (4) Brightens/Contrast Adjust -1

- Adjust brightness value of the RX terminal
- Contrast has default of "138", not changed.(Number check required)
- Brightness Spec : 0.60~0.75 cd/m2  
0.65 cd/m2 (Typ)
- > Measuring value must be near 0.65 cd/m2 (Typ)
- Input signal : None
- Equipment required: Brightness meter (CA-110/210),
- Test conditions: Manufacturing A Line brightness measuring location (darkroom)
- These data are not reset for the SSID,
- RX Factory Default Initialization.

1. Measure brightness in the Brightness/Contrast Mode after aging. If brightness is insufficient, adjust it in following method:
2. Adjustment method
  - Move the cursor to Brightness by pressing arrow key(↑/↓)
  - Change and adjust numbers by pressing the arrow key (←/→) so that brightness falls within Spec.
  - > Adjust measuring value near 0.65 cd/m2 (Typ).
  - Save the Exit key for escape.
3. Brightness value must be " -10" or more.  
(See following chapter for less than "-11")



#### Initial Data

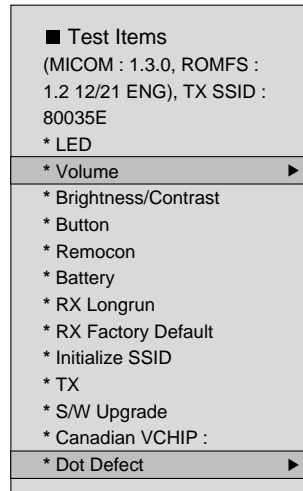
Select menu with the Up/Down button.  
Change values with the Left/Right button.

=> Click the Exit button of the REMOCON to return to the previous initialization menu

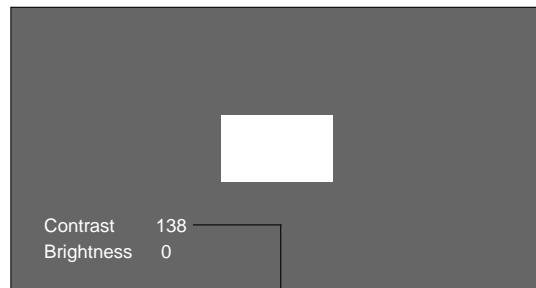
#### (5) Brightens/Contrast Adjust -2

- Adjust brightness value of the RX terminal when value less than "-11" is required
- Input signal: None
- Equipment required: Brightness meter (CA-110/210)
- Test conditions: Manufacturing A Line
- Brightness measuring location (darkroom)

1. After returning to the SVC mode by pressing the Exit Key and selecting the DOT Defect Mode, measure brightness value of the center part in the black screen by pressing the numeric key "2".
2. Return the Brightness Adjustment Mode again, setup Spec as below:  
**Brightness adjusting value +< 0.1~0.15> cd/m2 = Center value in Dot Defect**



<Volume>



#### Initial Data

Select menu with the Up/Down button  
Change value with the Left/Right button

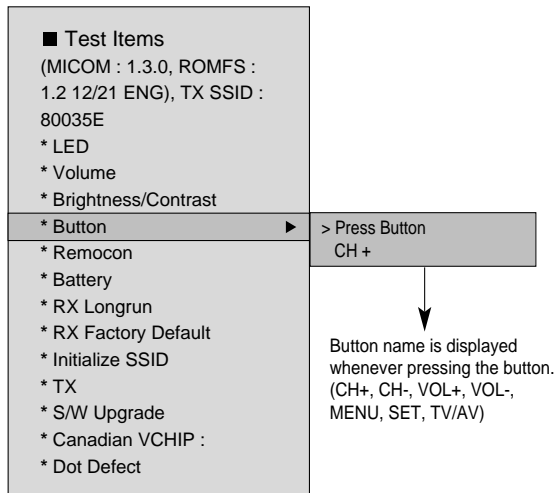
<Dot Defect>



> Check Dot Defect  
Press 1 for white, 2 for Black

## (6) Button Test

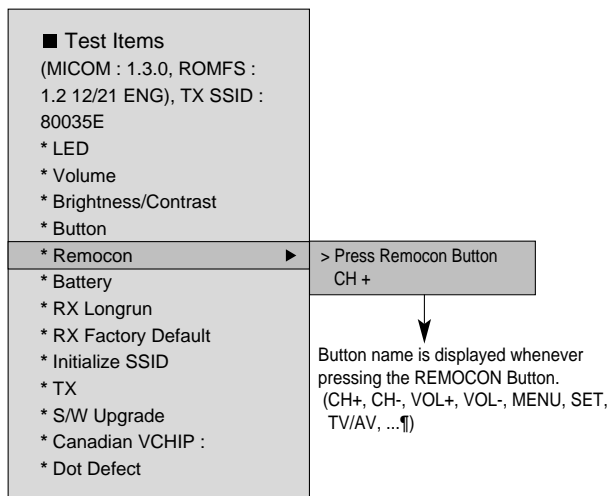
- Test whether there is key control operation of the RX



=> Click the Exit button of the REMOCON to return to the previous initialization menu

## (7) REMOCON Test

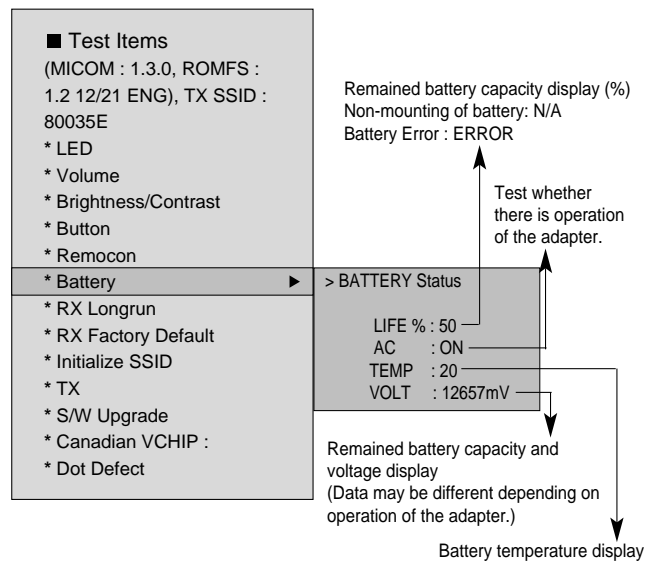
- Test whether there is key control operation of various keys



=> Click the Exit button of the REMOCON to return to the previous initialization menu

## (7) Battery Test

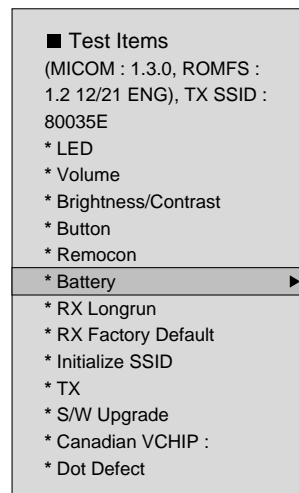
- Battery information display



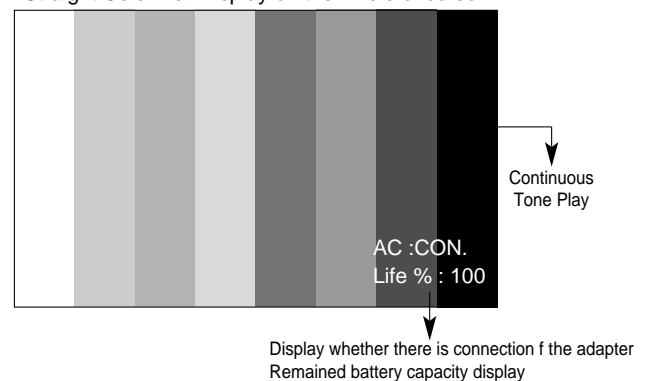
=> Click the Exit button of the REMOCON to return to the previous initialization menu

## (8) RX Longrun

- Rx Long Run Mode



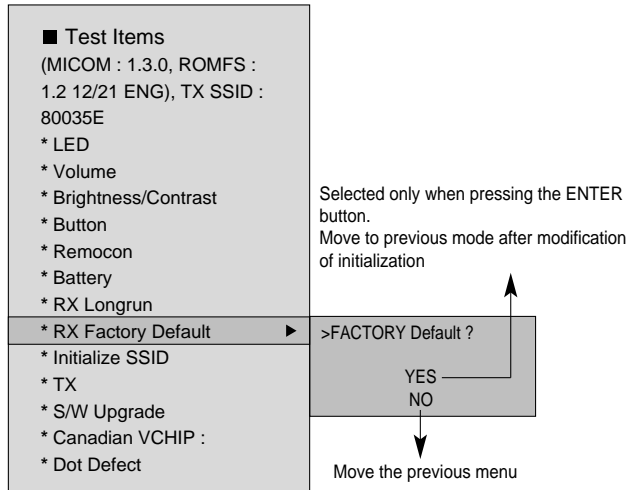
<Straight Color Bar Display on the whole of screen>



=> Click the Exit button of the REMOCON to return to the previous initialization menu

## (9) RX Factory Default

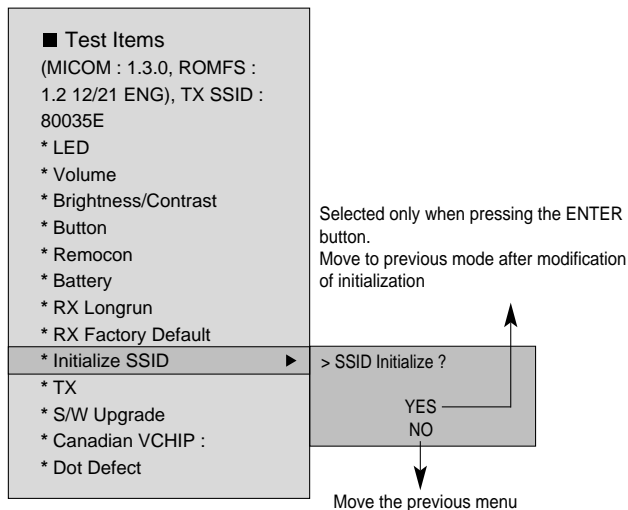
- Rx Factory Mode (Initialization Mode)



=> Click the Exit button of the REMOCON to return to the previous initialization menu

## (10) Initialize SSID

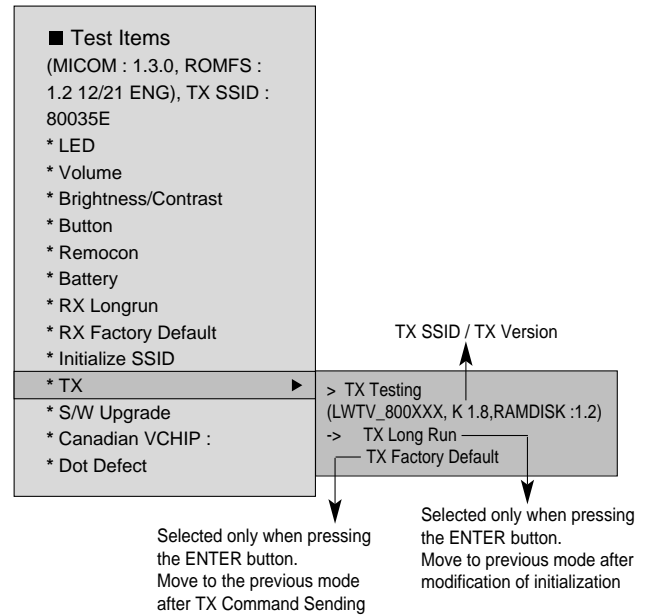
- Delete the Tx SSID registered in the Rx.



=> Click the Exit button of the REMOCON to return to the previous initialization menu

## (11) TX

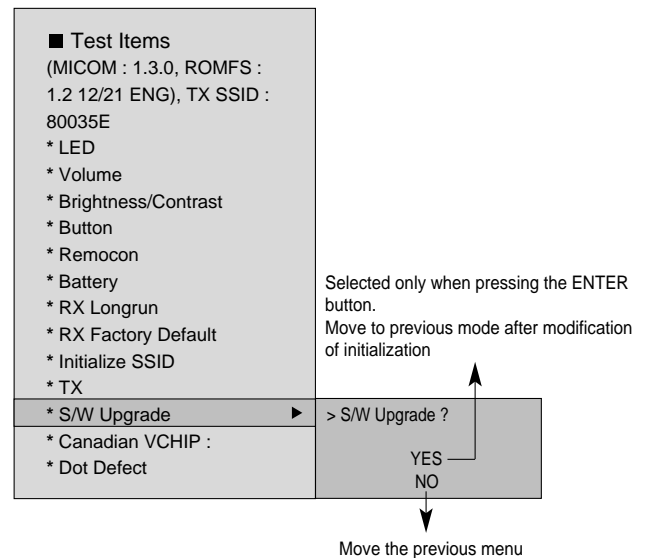
- TX Version display/Long Run Mode/TX Factory Default (Initialization Mode)



=> Click the Exit button of the REMOCON to return to the previous initialization menu

## (12) S/W Upgrade

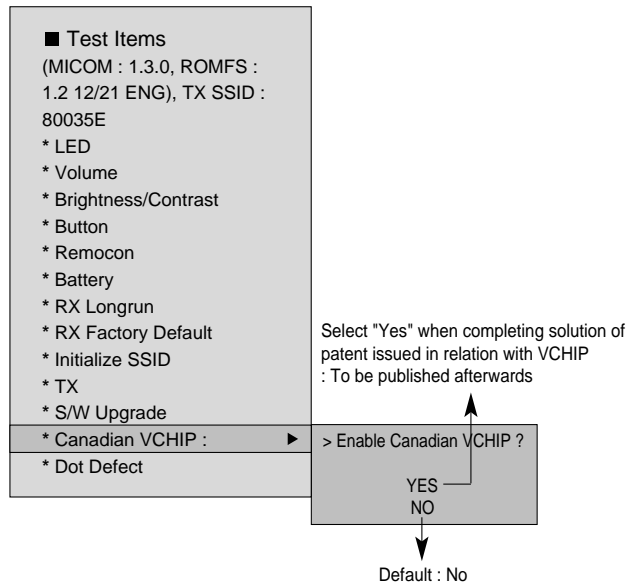
- Execute Rx Flash S/W Update



=> Click the Exit button of the REMOCON to return to the previous initialization menu

### (13) Canadian VCHIP

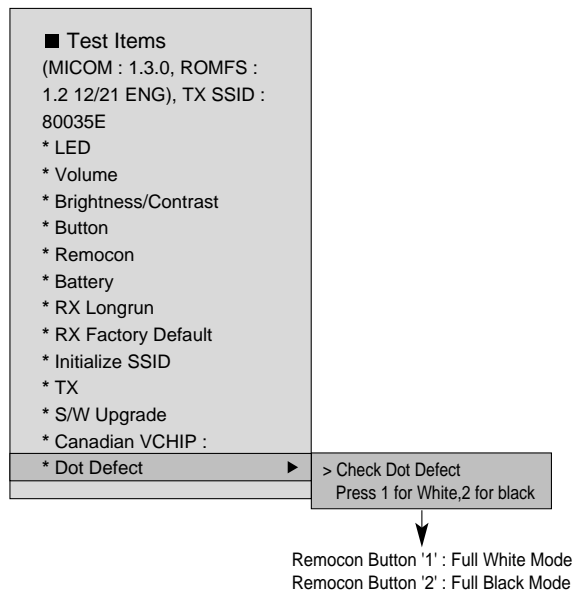
- Canadian VCHIP Yes/No



=> Click the Exit button of the REMOCON to return to the previous initialization menu

### (14) Dot Defect

- Inspect Dot Defect of LCD Module



=> Click the Exit button of the REMOCON to return to the previous initialization menu

## 3. RX/TX Release Mode Initialization

### - Release mode initialization

- : TX terminal: VCTI EEPROM initialization
- : RX terminal : Initialization of User Flash Data (Volume/Brightness) except for SSID

### - Initialization method

- : In use of Test Program
  - Select "RX Factory Default" and "TX Factory Default" menu of the Test Item menu.

## 4. Complete charging/discharging of battery and Aging Test

### - Battery shipment mode

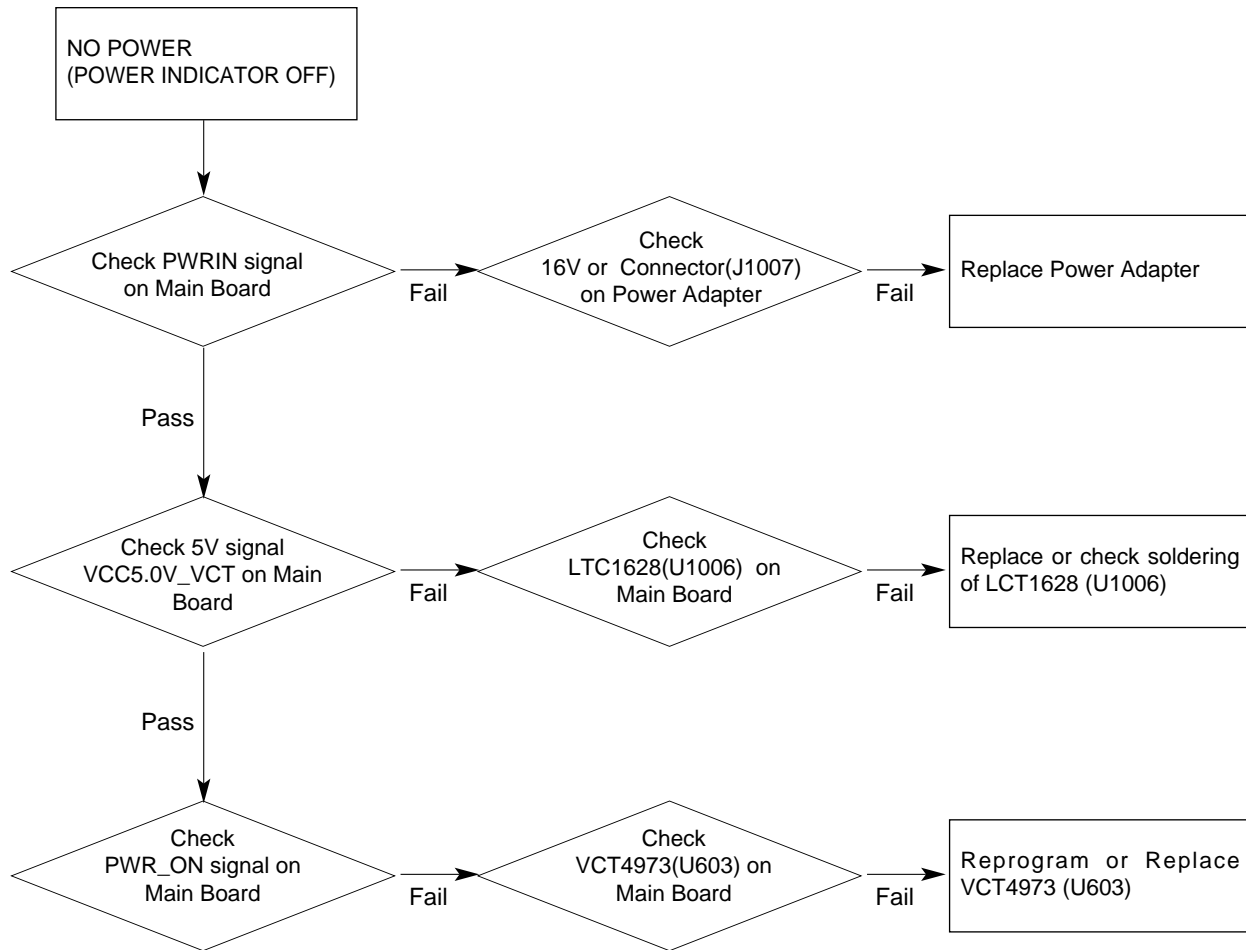
- : Release mode remained: 30% or more
- : Application method
  - 100% charging in aging test

### - Aging Test time

- : Battery 50% charging time: 2hours

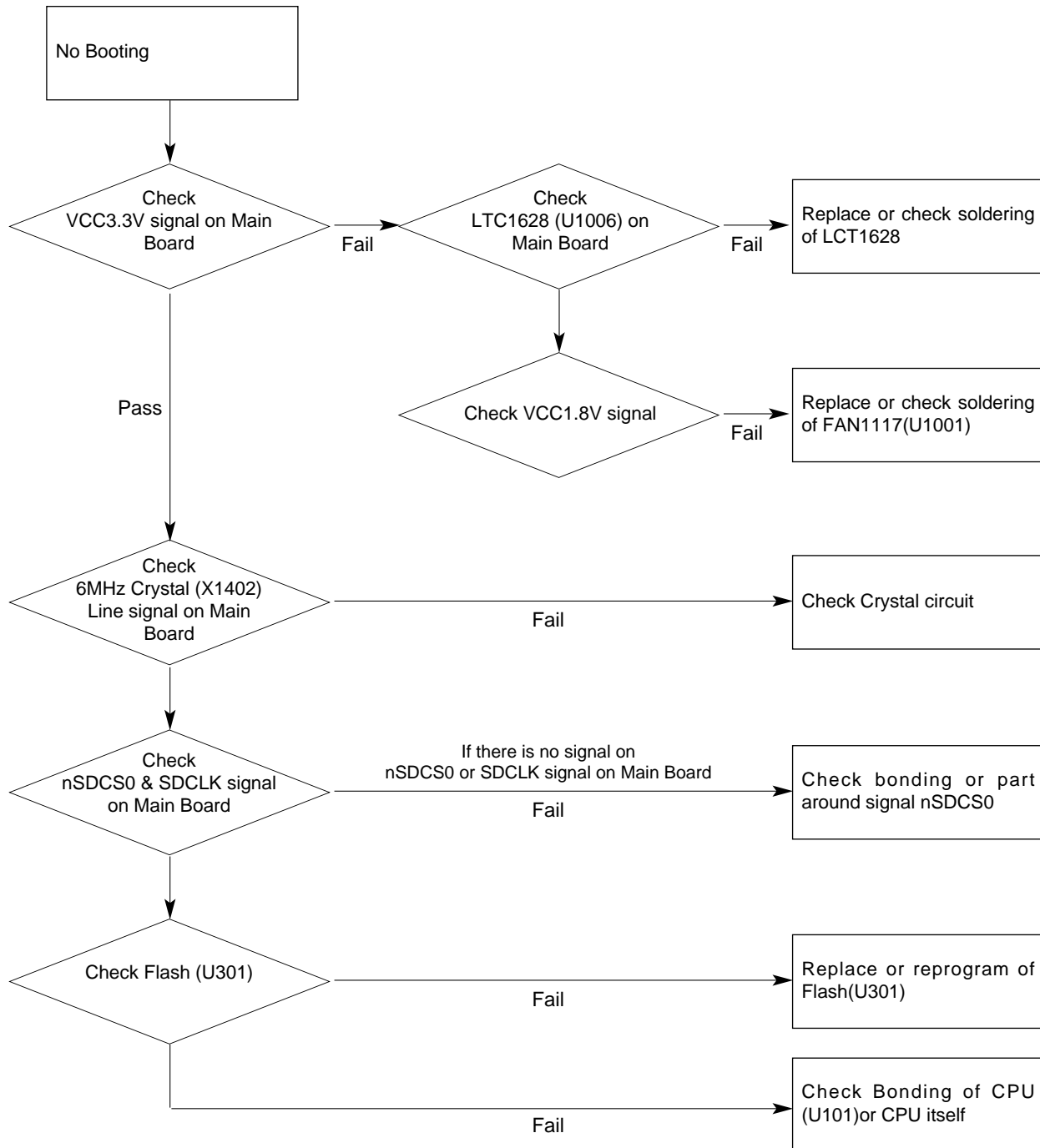
# TROUBLESHOOTING

## 1. OUT OF ORDER ON POWER (TX)

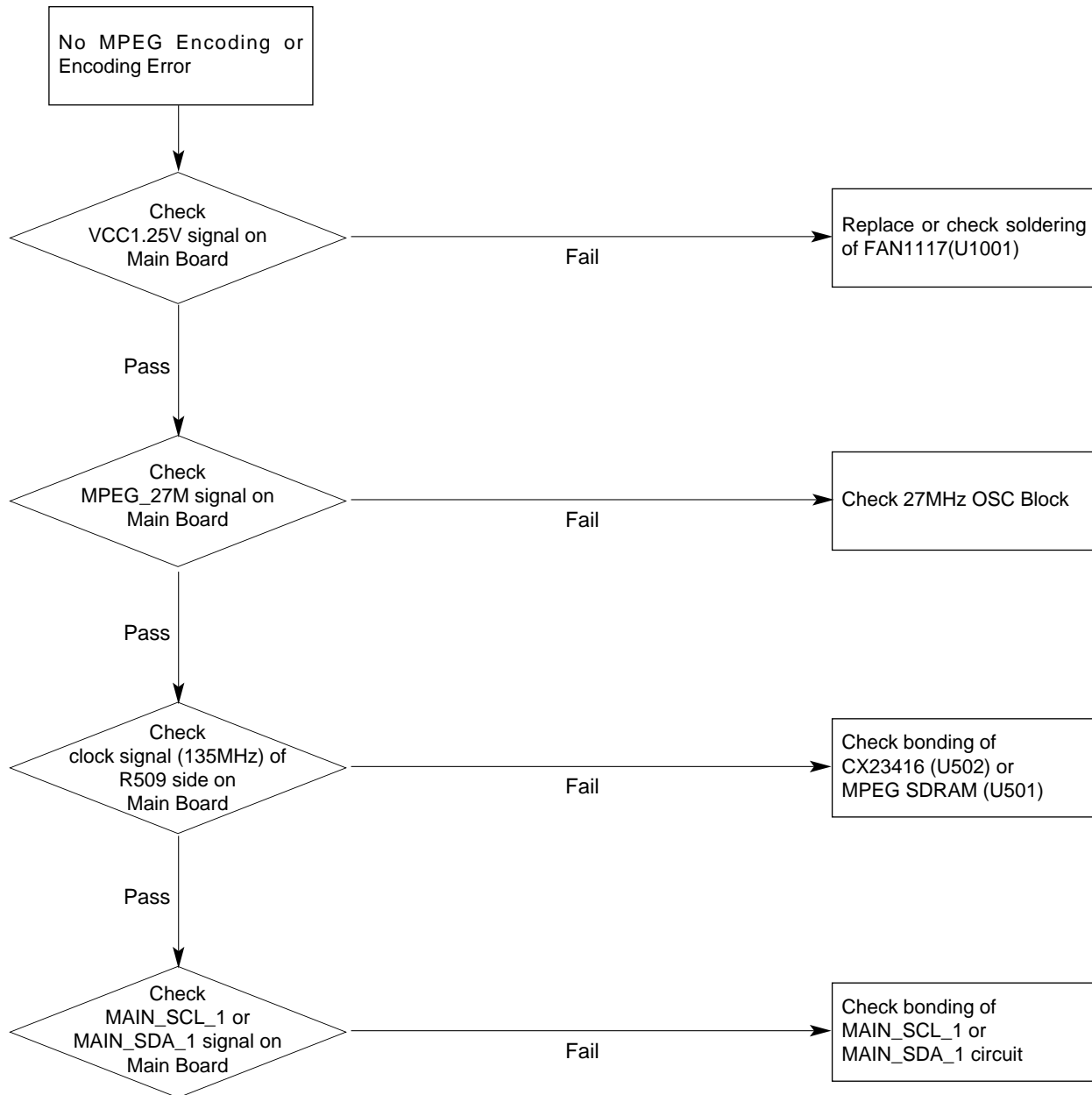




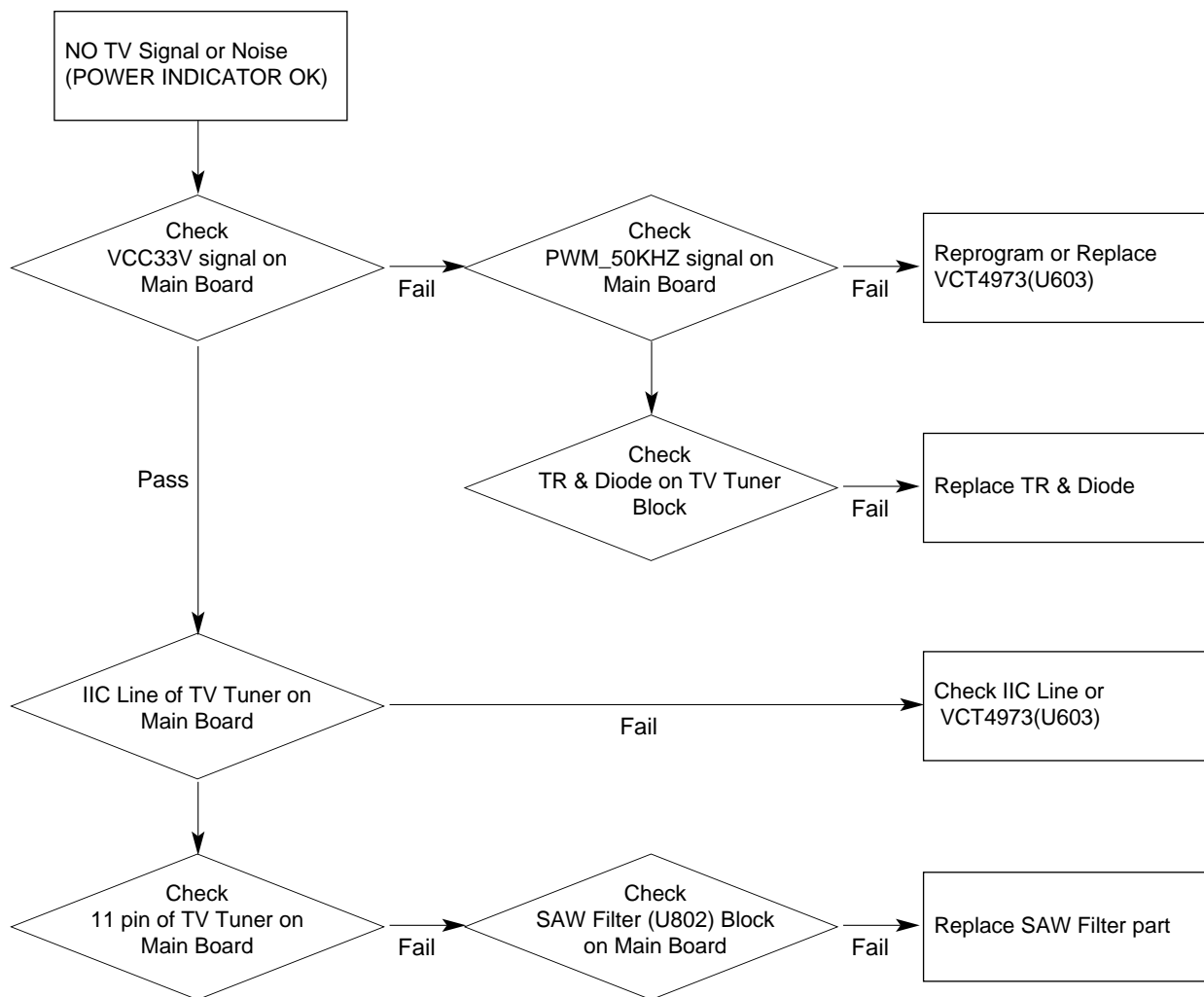
## 2. OUT OF ORDER ON BOOTING (TX)



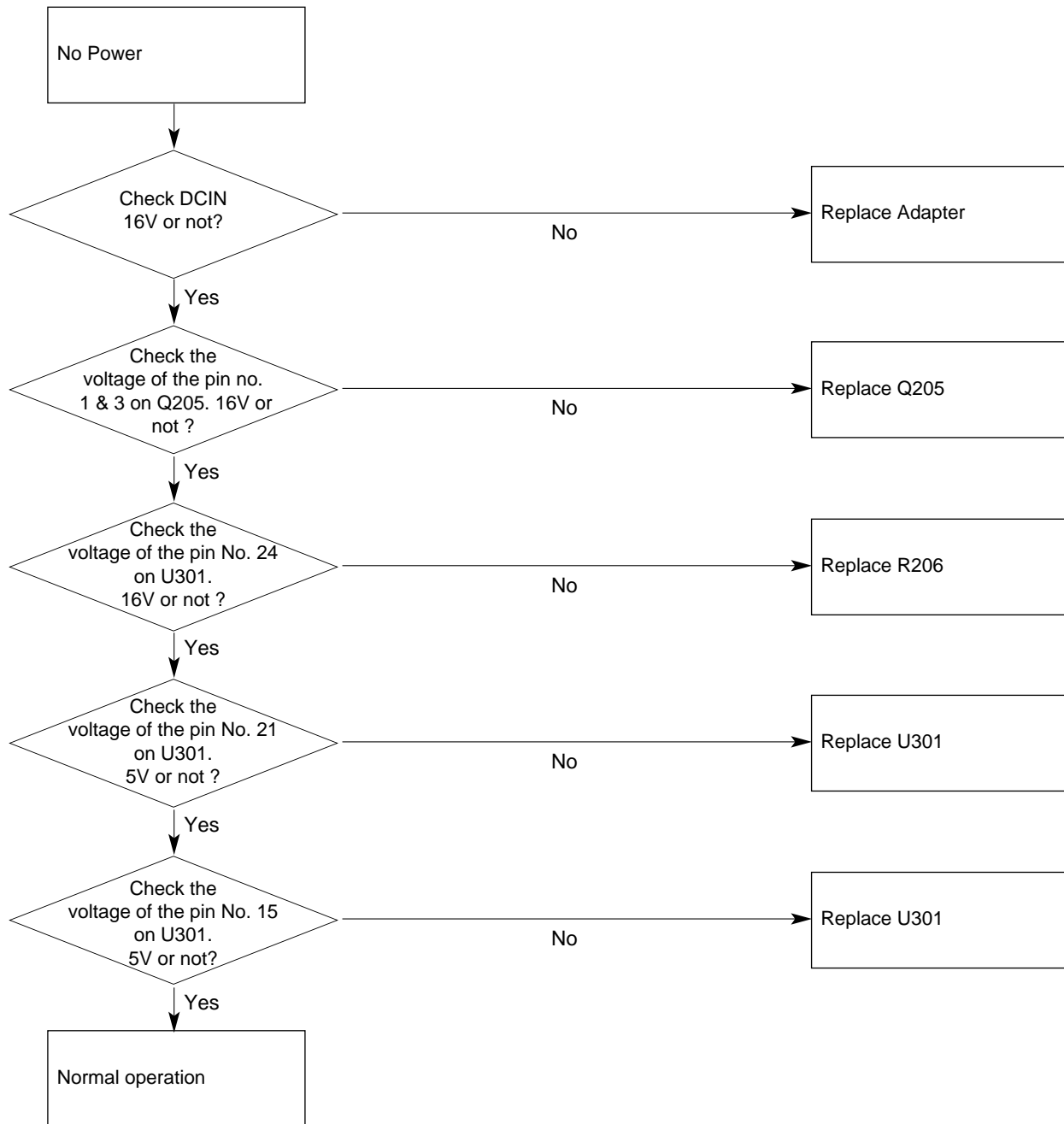
### 3. OUT OF ORDER ON MPEG (TX)



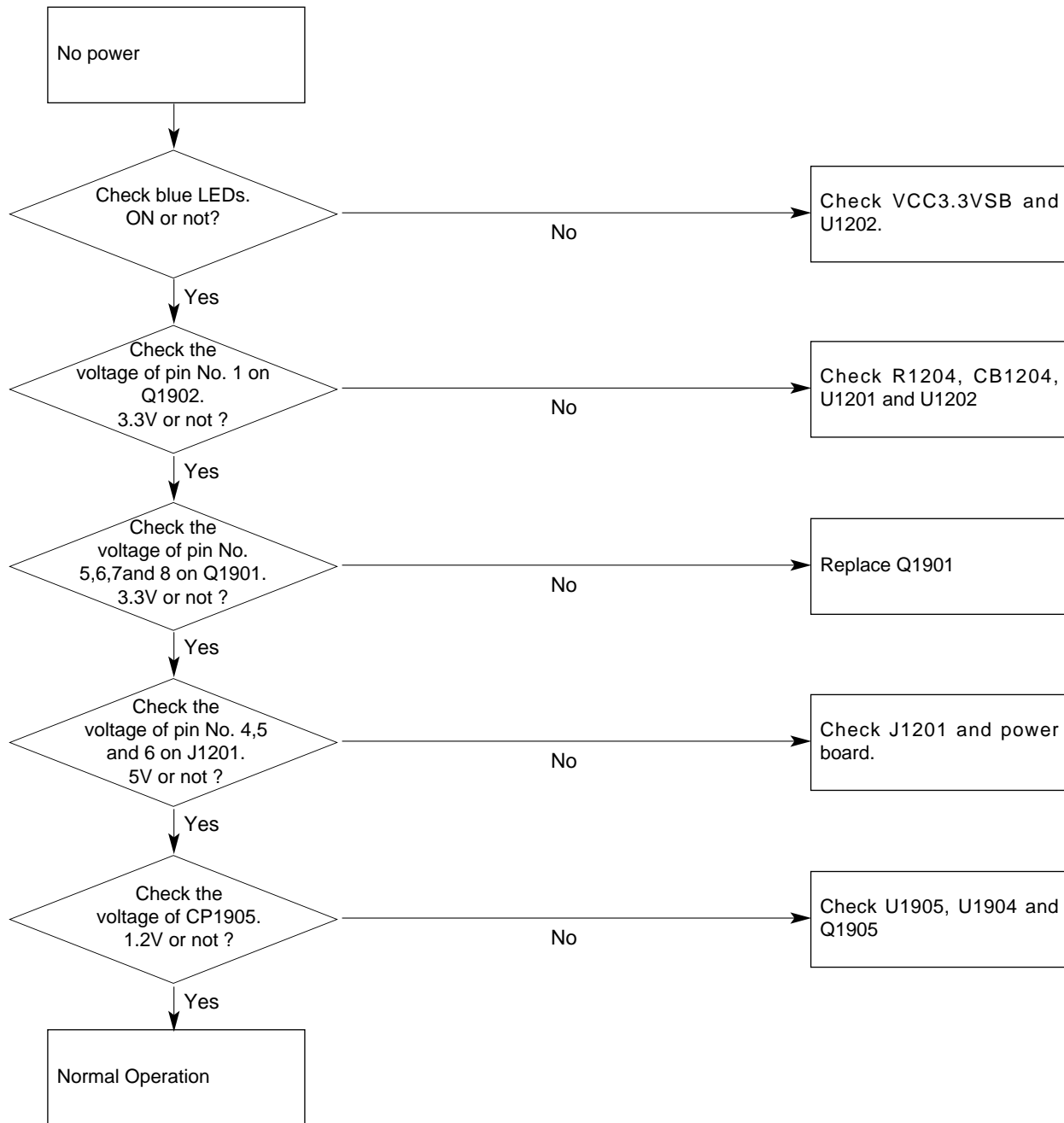
#### 4. OUT OF ORDER ON TV (TX)



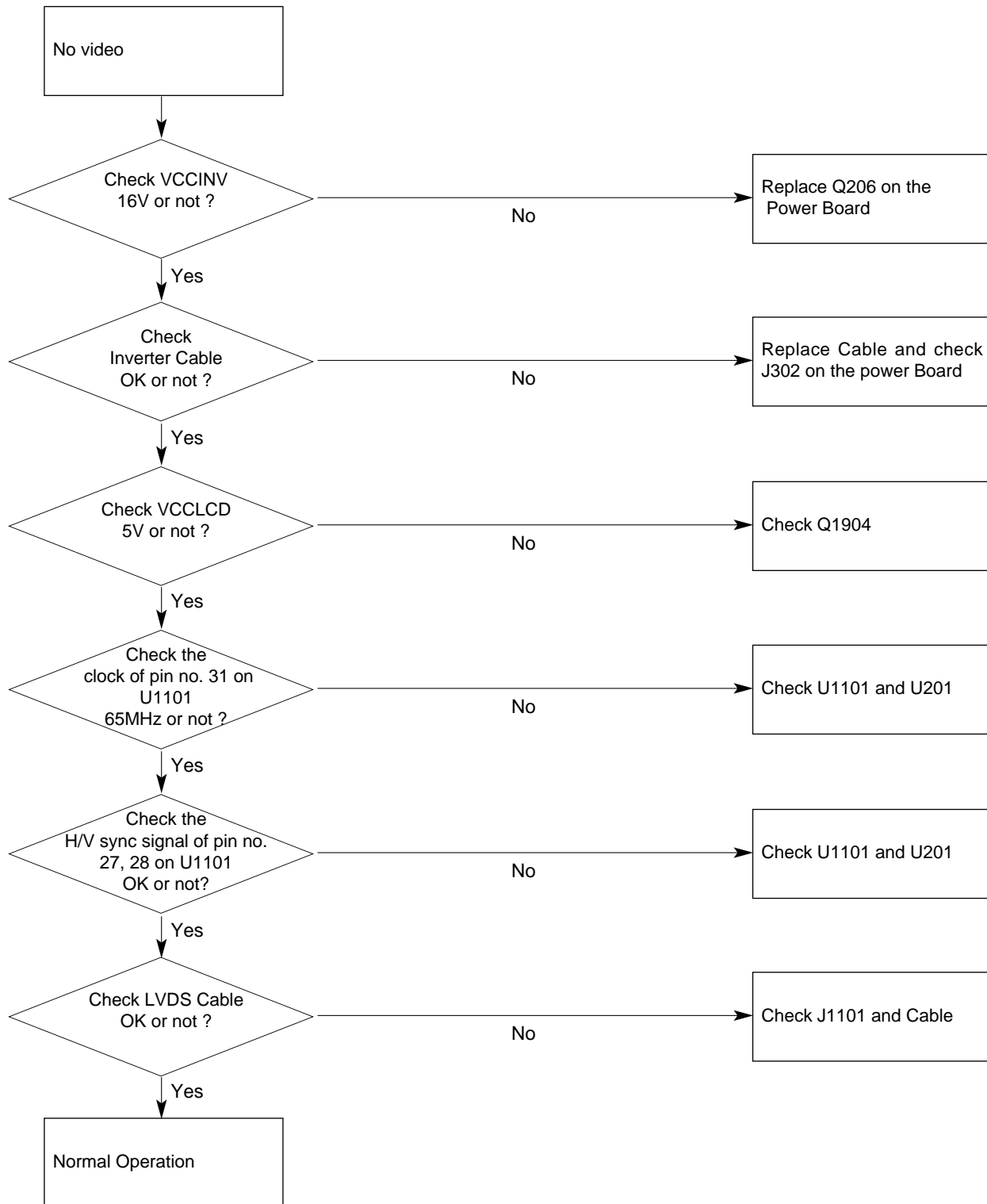
## 5. POWER PART(POWER BOARD) (RX)



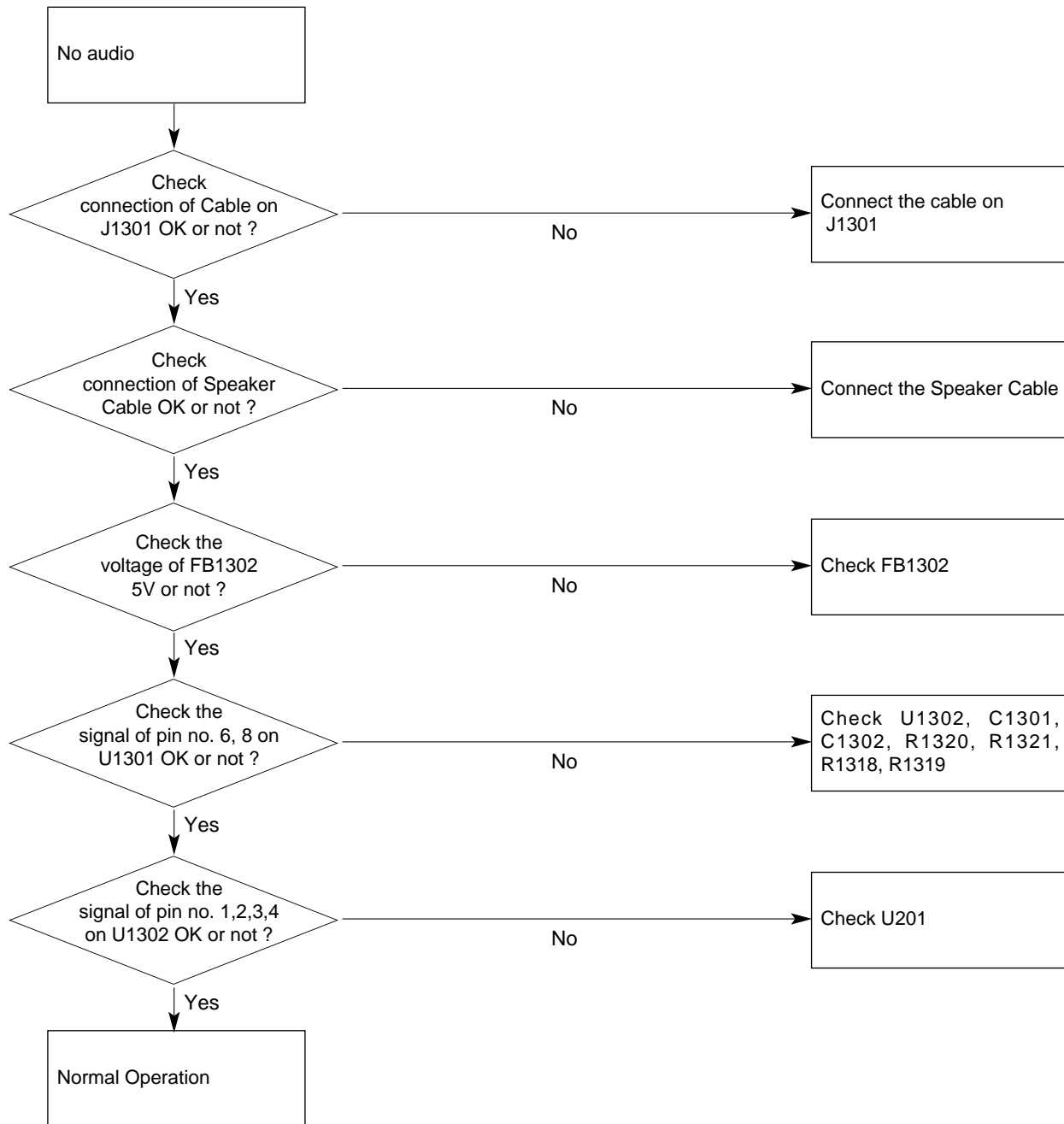
## 6. POWER PART(MAIN BOARD) (RX)



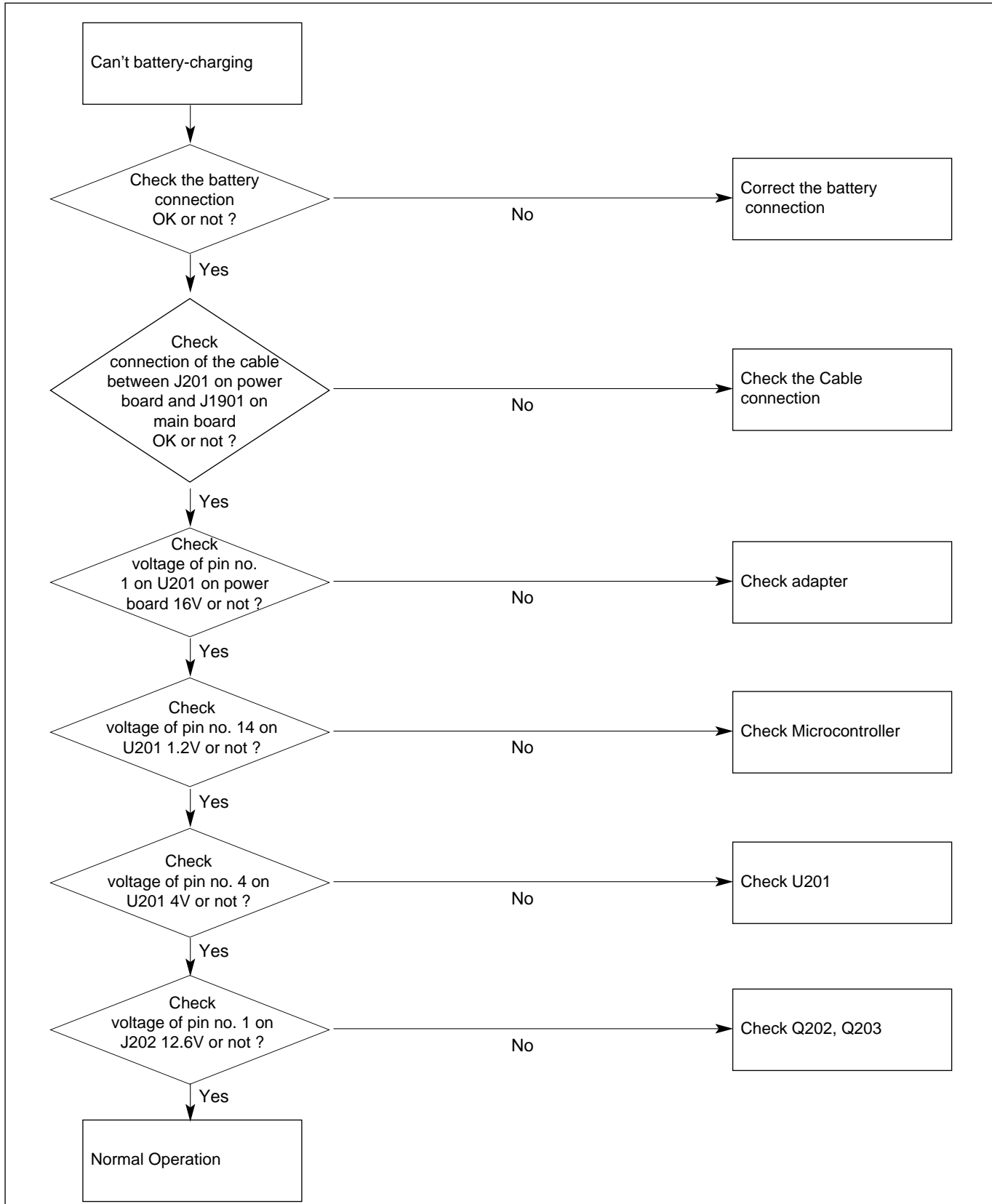
## 7. VIDEO PART (RX)



## 8. AUDIO PART (RX)



## 9. BATTERY PART (RX)





## BLOCK DIAGRAM (RX)

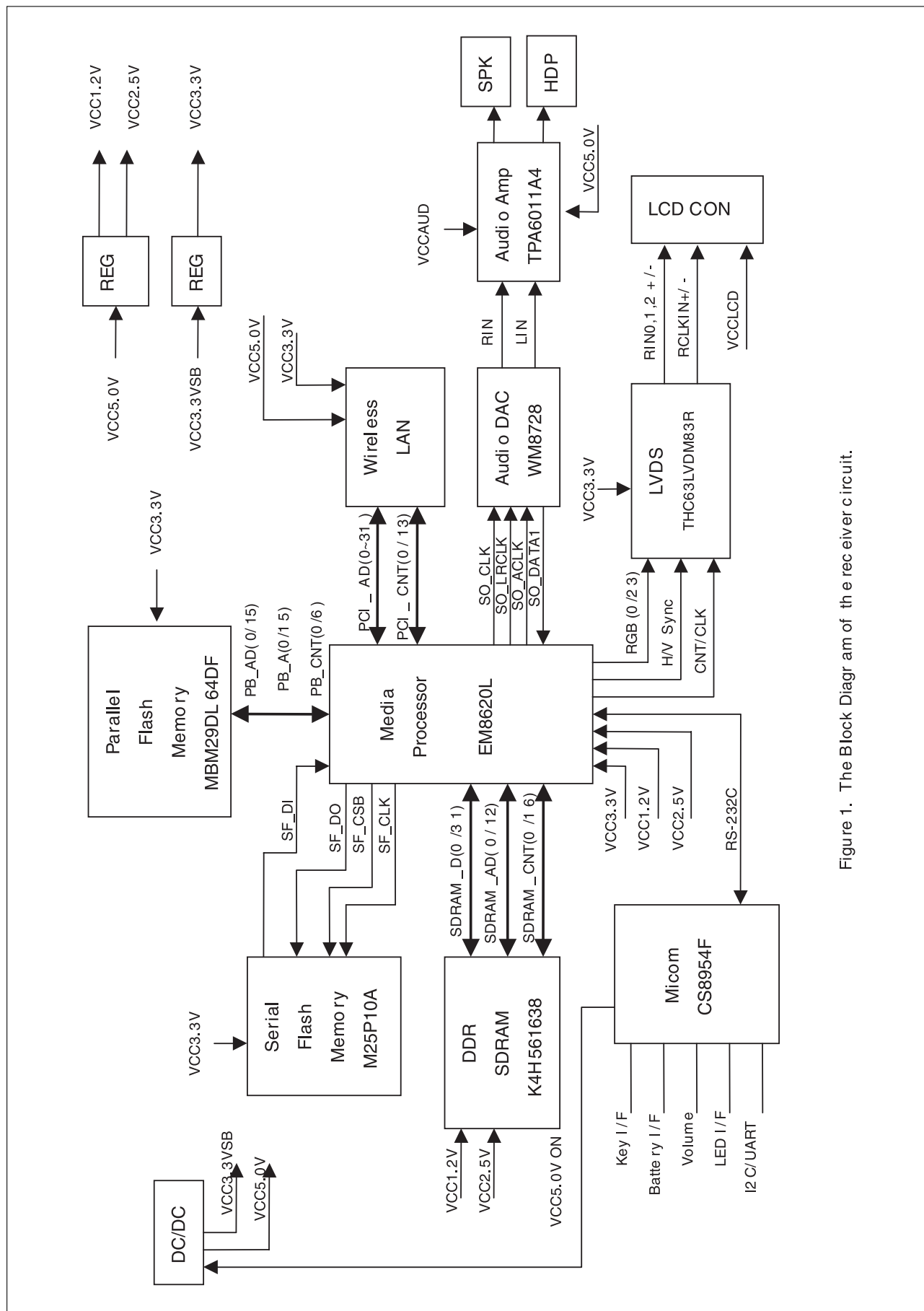


Figure 1. The Block Diagram of the receiver circuit.

# BLOCK DIAGRAM DESCRIPTION (RX)

## 1. The Media Processor(EM8620L)

The media processor which is used in this product is the EM8620L of Sigma Designs. The EM8620L consists of CPU and decoder. The CPU is a ARM7TDMI core and the decoder covers MPEG-2, MPEG-4, WMV9 and Divx. Also the EM8620L has many built-in functions that they are PCI/Peripheral BUS, Digital Audio Processor, Video/Graphic processor and Double-Data Rate SDRAM Controller etc.

In this product the PCI Bus controls a wireless LAN card of MiniPCI type and Digital Audio Processor controls a DAC device externally that it converts digital audio data into analogue audio signal. Also the Graphics controller sends 24 bit digital RGB data to a LVDS device. The LVDS device interfaces with LCD module.

## 2. Wireless LAN

The Wireless LAN Card which is used in the product is manufactured by LG Innotek. The card satisfied with IEEE802.11 b/g standard. The product name is LVMM-3001A.

The maximum bandwidth of LVMM-3001A is 54Mbps and its operation frequency is about 2.4GHz.

## 3. DDR SDRAM

The receiver has total 64Mbytes double-data rate SDRAM. 16Mbytes of 64Mbytes is the space for the decoder and the rest is for applications. The speed of the SDRAM is 166MHz. We use ferrite beads and capacitors on the clock lines to reduce EMI. SDRAM devices use 2.5V and 1.2V for operational voltages.

## 4. Clock of the Media Processor(EM8620L)

Internal PLL circuit of the EM8620L generates three clock signals using 27MHz crystal oscillator input. One is 166MHz clock of the SDRAM input, another is 65MHz clock of the Digital RGB part, and the third is 24.576MHz of Audio part.

## 5. UART(RS-232)

EM8620L has two on-chip UARTs. The UART0 is used for system debugging, and the UART1 is used to communicate with the microcontroller. The Information of key button control, battery, and power management that the microcontroller gets, is transported to the UART1 interface of EM8620L.

## 6. Audio Interface

EM8620L has a built-in digital audio processor that it is able to decode MP3 files or WMA files. The decoded data is transported into WM8728, DAC Chip and it converts digital input data to analog signals. These signals are transmitted to speaker via TPA6011A4, Audio Amplifier.

## 7. Flash Memory

RM-15LW10 has two kinds of program memory. One is serial flash memory; the other is parallel flash memory. In serial flash memory, it is stored the program that initializes the CPU and peripherals before loading OS to main memory, and this program is called 'bootloader'. The OS to control the system is stored in the parallel flash memory. Bootloader stored in serial flash reads the OS image from the parallel flash and writes the image to the DRAM and then, launches the OS loaded into DRAM.

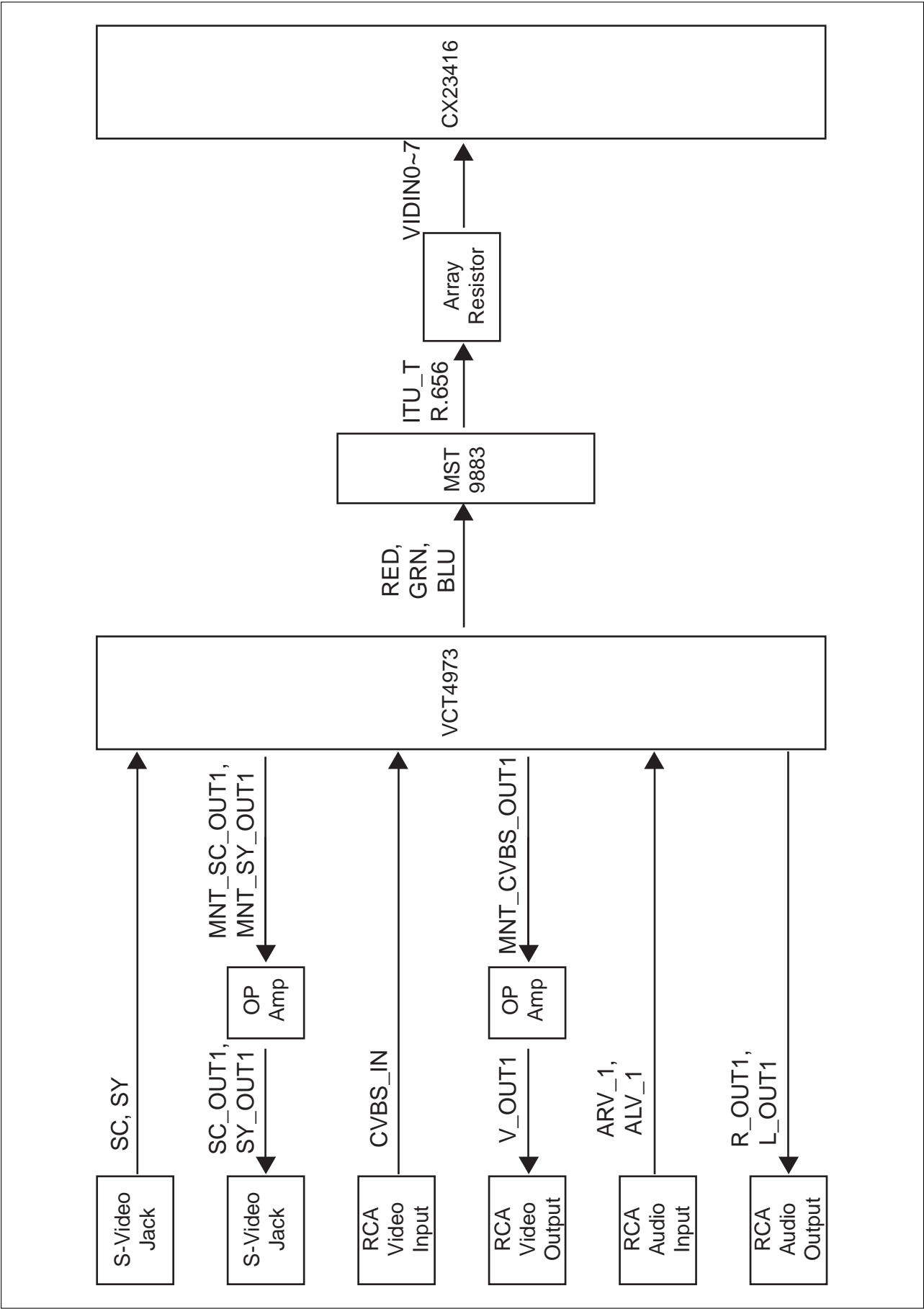
## 8. Digital RGB

EM8620L displays the video in LCD panel by transmitting the digital RGB signal to external LVDS chip. The digital RGB signals that consist of 24-bit color, horizontal sync, vertical sync, and 65MHz clock are transmitted to LVDS chip. The signals are converted to Low Voltage Differential Signal and sent to the LCD panel.

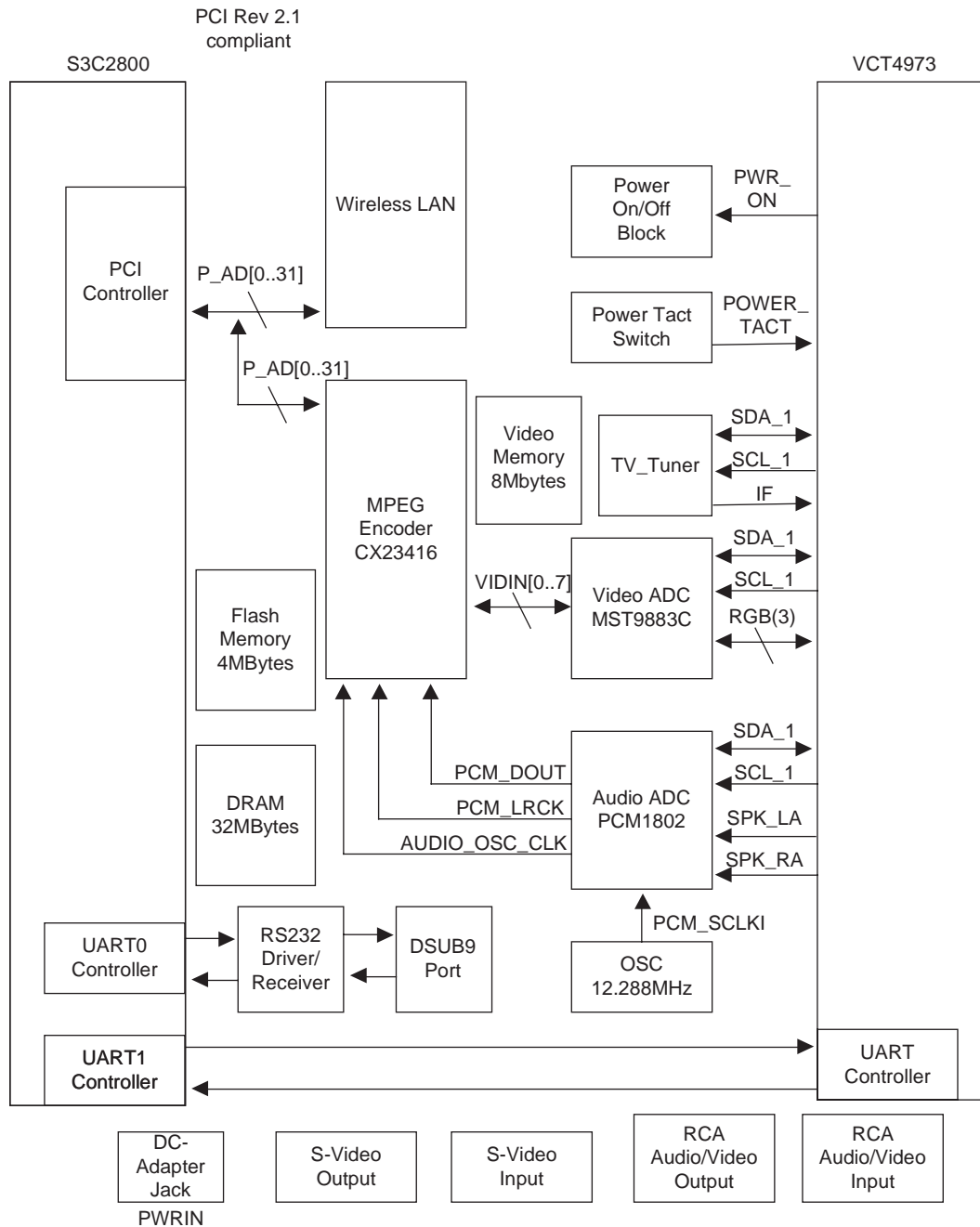
## 9. Microcontroller

An 8051-compatible 8-bit microcontroller, CS8954 controls battery management, key button, remote control, and power management in this system. It controls battery-charging and discharging status, and manages audio volume, channel, and remote control signal. It also plays a role of system power manager to control power supply effectively.

WIRELESS TV TX BOARD BLOCK DIAGRAM(TX-AV)



# WIRELESS TV TX BOARD BLOCK DIAGRAM (TX)



# DESCRIPTION OF BLOCK DIAGRAM (Wireless TV TX)

## 1. CPU & Memory Block

S3C2800 Samsung CPU is used for the main processor. S3C2800 offers embedded PCI Host Bridge. Input frequency is 6MHz and maximum output frequency is 200MHz. PCI interface supports 32bit data bus at 33MHz/66MHz and wireless TV TX system is using 33MHz system. Wireless TV TX system supports 4Mbytes Flash Memory and 32Mbytes SDRAM Memory. Flash Memory is MX29LV320ABTC-90 and SDRAM Memory is composed of two 16 Mbytes SDRAM K4S281632F-TC75.

## 2. MPEG Encoder

MPEG II A/V Encoding system is used by Conexant CX23416-12(U502). It contains memory controller and interfaces directly with HY57V643220DT-7(U501). CX23416 is interfaced with CPU by PCI interface. Input Analog signal is converted to digital signal and Mpeg encoded by CX23416 and transmitted to wireless TV RX system by wireless interface. It supports ITU-T 656 format and input frequency is 27MHz.

## 3. Video/Audio Processor & Micom

VCT4973(U603) contains several functions which is essential for wireless TV TX system. VCT4973(Micronas inc) contains Video processor, Audio processor, micom function, V-Chip function, I2C interface. Input crystal oscillator frequency is 20.25MHz. Video/Audio signal from external AV interface is transferred to A/D Converter. Power Management function is performed by micom function. When Adapter is connected with wireless TV TX system, Standby power 1.8V, 3.3V is applied to the system and maintains Standby status and if you push the power switch, Normal power is applied to the system.

## 4. Wireless LAN

Wireless LAN card is LG INNOTEK inc Wireless LAN card(Model:LWMM-3002A). Wireless LAN interface is interfaced by MiniPCI Type IIIA interface which is Soft MAC. Main chip is Conexant Inc. wireless LAN chip. Wireless LAN card is convertible with 802.11b(max 11Mbps) & 802.11g(max 54Mbps).

## 5. TV Tuner

TV Tuner is LG INNOTEK Inc. TAEW-G351P. SAW Filter is not included to the tuner and internal booster is included to the tuner. The tuner adopts external 2 Antenna Connectors. One is for input TV signal and the other is output TV signal. TV tuner is controlled by VCT4973 through IIC interface. SAW Filter is EPOS Inc. X6966. X6966(U802) uses 38.9MHz IF frequency. IF signal from TV Tuner is passing through SAW Filter and transferred to VCT4973. TV Tuner's 33V is made by Transistor, Diode circuit and PWM signal. VCT4973 is sending PWM signal to 33V circuit.

## 6. AD Converter

This circuit uses Mstar Semiconductor Inc. MST9883(U702) as Video ADC. In case of Audio ADC, TI Inc. PCM1802 is used. Video signal from VCT4973 is transformed to ITU-T R.656 format and transferred to MPEG Encoder. Audio signal from VCT4973 is transferred to Audio ADC PCM1802(U701) and passed to MPEG Encoder. PCM1802 gets input frequency 12.28MHz. MST9883 and PCM1802 has IIC interface and VCT4973 controls them through IIC interface.

## 7. Clock distribution & Spread Spectrum

Clock system is mainly composed of CDCVF2505 and CY25812. Clock system offers 33MHz frequency to main CPU PCI master/slave system, MPEG Encoder, and Wireless LAN(MiniPCI circuit). Input Crystal frequency is 16.6MHz and this frequency is applied to CDCVF2505 and it outputs 33MHz. 33MHz can interfere with other signals and be EMI main source signal. Cypress Inc. CY25812 is used to spread frequency around 33MHz and reduces EMI value to adequate level. .

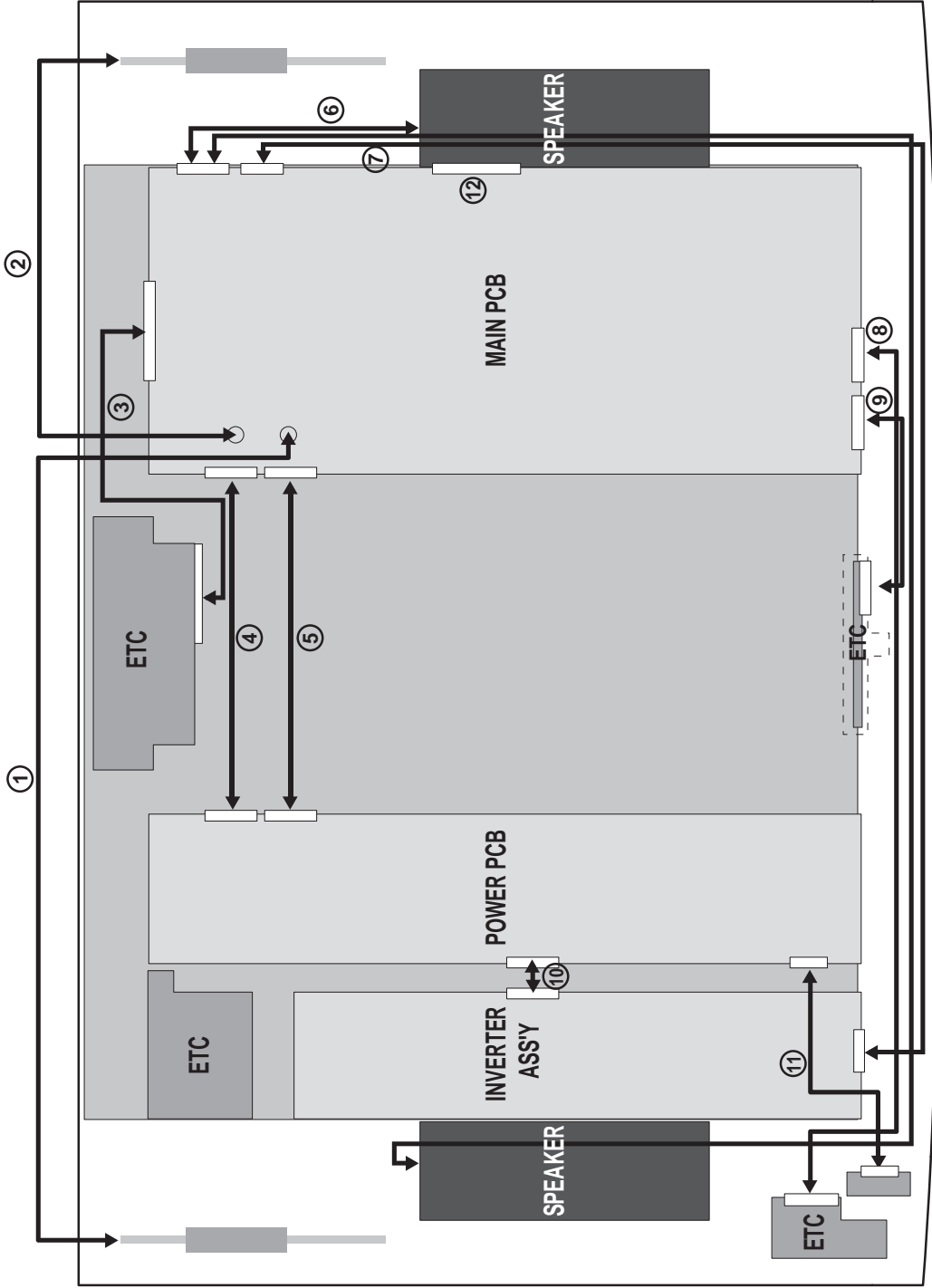
## 8. DC-DC Converter

DC-DC Converter is composed of LTC1628 and regulator circuits. 110V/220V 60Hz DC power adapter output signal is 16V and wireless TV TX system input power is 16 V. 16V input power is converted to 8V by regulator (78M08), and to standby 5V, 3.3V by regulator (LTC1628) and Normal 5V, 3.3V is controlled by the signal ON/OFF from VCT4973. From standby 3.3V, standby and Normal 1.8V, 1.25V is made by regulator (FAN1117, REG1117). 1.8V power is used by VCT4973, and main processor S3C2800. 1.25V is used by MPEG Encoder.

Also, 5V, 3.3V Power control is done by FET circuit controlled by micom in A/V multi processor VCT4973. Once external Power TACT switch signal is detected by micom in VCT4973, micom remembers its signal status as toggle method. Push the button and power is on. If you push again, power is off. This way power is controlled. If DC adapter is connected, Standby power(5V, 3.3V, 1.8V) for TV tuner and video/audio system is maintained without regard to power switch push status.

In case of TV Tuner(TAEW series). 5V and 33V is needed., PWM signal from VCT4973 is amplified by transistor and rectified by diode. This way 33V is made. This 33V is also standby power. In Standby status, TV Tuner input/output is operating.

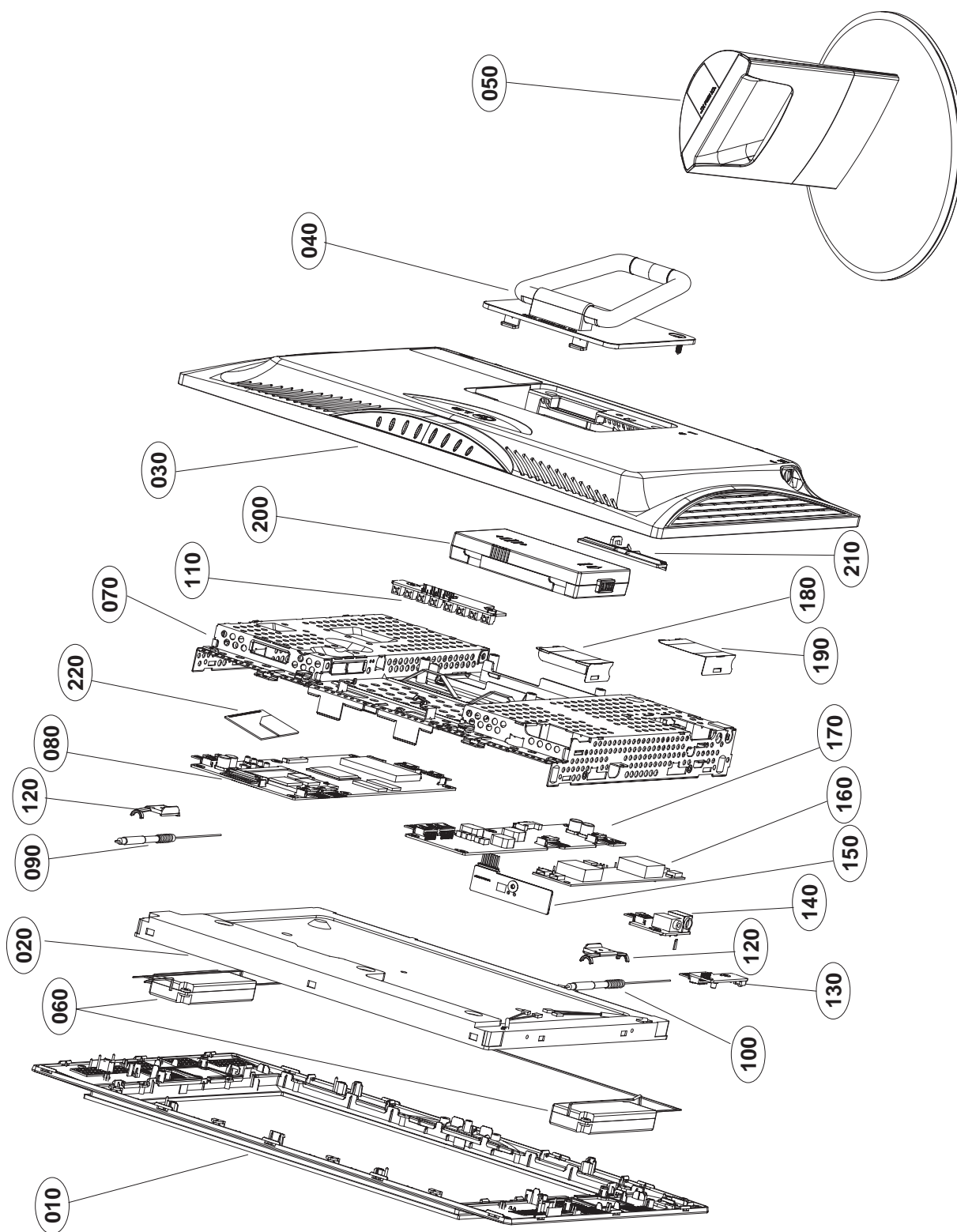
WIRING DIAGRAM



Wiring Part List

No.	Part No.
1	5010TZZ001E
2	5010TZZ001F
3	6631T20010A
4	6631T20034G
5	6631T20010C
6	6401TZZ035C
7	6631T20034F
8	6631T20033H
9	6631T20015D
10	6631T20015A
11	6631T20020E
12	6631T11020T

# EXPLODED VIEW

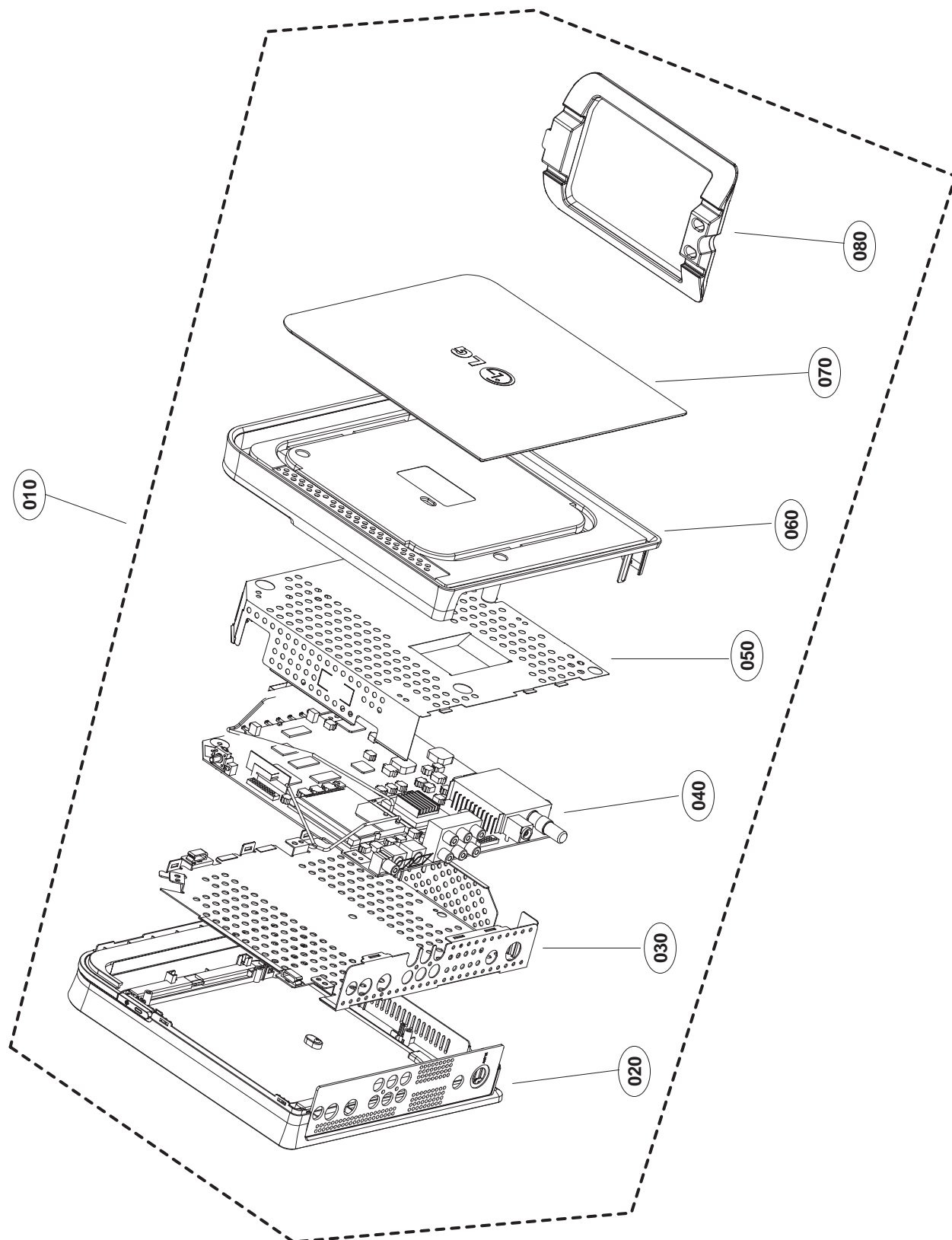


## EXPLODED VIEW PARTS LIST

No.	PART NO.	DESCRIPTION
010	3091TKL134B	CABINET ASSEMBLY, 15LW10 BRAND L107 SILVER/BLACK(REV)
020	6304FLP133B	LCD(LIQUID CRYSTAL DISPLAY), LC150X02-A4 LG PHILPS TFT COLOR COST COMPENSATION
	or 6304FLP133A	LCD(LIQUID CRYSTAL DISPLAY), LC150X02-A4 LG PHILPS TFT COLOR TN,XGA,450NITS,8BITS LVDS
030	3809TKL092A	BACK COVER ASSEMBLY, 15LW10 L087 SILVER/BLACK(EXPORT)
040	3043TKK217B	TILT SWIVEL ASSEMBLY, 15LW10 VESA STAND(SILVER WITH THUMB SCREW)
050	3043TKK211A	TILT SWIVEL ASSEMBLY, 15LW10 . STANS ASSY
060	6401TZZ035C	SPEAKER ASSEMBLY, WIRELESS, 2W,4OHM,5PIN, L80 R800
070	4951TKS181B	METAL ASSEMBLY, FRAME 15LW10(REV)
080	6871TMTA17A	PWB(PCB) ASSEMBLY,MAIN, 15LW1R-UA ANUSLAX BRAND ML - 042A RX MAIN TOTAL
090	5010TZZ001E	ANTENNA, KOSAN DIPOLE 50 OHM,L190MM
100	5010TZZ001F	ANTENNA, KOSAN DIPOLE 50 OHM,L380MM
110	6871TST764A	PWB(PCB) ASSEMBLY,SUB, 15LW10 ETC TOTAL BRAND RX
120	4810TKK294A	BRACKET, 15LW10 HOLDER ANT(ABS, BK)
130	6871TST764A	PWB(PCB) ASSEMBLY,SUB, 15LW10 ETC TOTAL BRAND RX
140	6871TST764A	PWB(PCB) ASSEMBLY,SUB, 15LW10 ETC TOTAL BRAND RX
150	6871TST764A	PWB(PCB) ASSEMBLY,SUB, 15LW10 ETC TOTAL BRAND RX
160	6633TZA019A	INVERTER ASSEMBLY, FRONTEK FIF1542-51A 15 WIRELESS
170	6871TPT297B	PWB(PCB) ASSEMBLY,POWER, 15LW10 POWER TOTAL BRAND RX POWER
180	4814TKK291A	SHIELD, INVERTER CAP
190	4814TKK291B	SHIELD, INVERTER CAP(BOTTOM)
200	6910C00027A	BATTERY,LITHIUM, LG-WTB01-02 SUNGNAM ELECTRONIC CO. 11.1V 4400mAh 3S2P, UL, LG-WTB01-02
210	4810TKK278A	BRACKET, 15LW10 HOLDER POWER PCB
220	6718M000006	LANCARD, MINI PCI, LWMM-3001B LG IT INTERFACE STANDARD IEEE802, 11G 54M RX FOR WIRELESS TV(AMERICA).



# EXPLODED VIEW



## EXPLODED VIEW PARTS LIST

No.	PART NO.	DESCRIPTION
010	3313T15103A	MAIN TOTAL ASSEMBLY, 15LW1R-UA BRAND ML-042A
020	3551TKK545A	COVER ASSEMBLY, 15LW10 TOTAL . TOP ASSY(TX)
030	4815TKK043A	SHIELD ASSEMBLY, TOP MAIIN(15LW10)
040	6871TMT787B	PWB(PCB) ASSEMBLY,MAIN, 15LW10 TX BRAND ML- 042A TOTAL
050	4814TKK290A	SHIELD, REAR .
060	3551TKK546A	COVER ASSEMBLY, 15LW10 TOTAL . BOTTOM ASSY(TX)
070	3550TKK648B	COVER, M15XX SIDE DECO_RIGHT
080	3551TKK547A	COVER ASSEMBLY, 15LW10 TOTAL . STAND ASSY(TX)

# REPLACEMENT PARTS LIST

For Capacitor & Resistors, the characters at 2nd and 3rd digit in the P/No. means as follows;

CC, CX, CK, CN, CH : Ceramic  
CQ : Polyester  
CE : Electrolytic  
CF : Fixed Film

RD : Carbon Film  
RS : Metal Oxide Film  
RN : Metal Film  
RH : CHIP, Metal Glazed(Chip)  
RR : Drawing

DATE: 2005. 01. 10.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
<b>MAIN BOARD</b>				
<b>CAPACITOR</b>				
		CP802	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP803	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP902	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP903	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP904	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP101	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP1011	OCH7475F621	4.7UF 16V M 3528 TP(-)
		CP102	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP103	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP104	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP105	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP106	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP107	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP108	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP109	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP110	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP111	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP112	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP113	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP114	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP201	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP202	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP301	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP401	OCH7475F621	4.7UF 16V M 3528 TP(-)
		CP402	OCH7475F621	4.7UF 16V M 3528 TP(-)
		CP403	OCH7475F621	4.7UF 16V M 3528 TP(-)
		CP501	OCH7475F621	4.7UF 16V M 3528 TP(-)
		CP1001	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP1002	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP1003	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP1004	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP801	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP901	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP905	DCH7106F621	10UF 16V M 3528MM TP(-)
		CP906	DCH7106F621	10UF 16V M 3528MM TP(-)
		CB1001	0CZZTCT006C	C3225Y5V1E106Z TDK 25V 10UF
		CB1002	0CZZTCT006C	C3225Y5V1E106Z TDK 25V 10UF
		CB1003	0CZZTCT006C	C3225Y5V1E106Z TDK 25V 10UF
		CB1004	0CZZTCT006C	C3225Y5V1E106Z TDK 25V 10UF
		CB1008	0CZZTCT006C	C3225Y5V1E106Z TDK 25V 10UF
		CB1014	0CZZTCT006C	C3225Y5V1E106Z TDK 25V 10UF
		CP1008	0CZZTST002B	EEFUD0G181R MATSUSHITA 4V 18
		CP1014	0CZZTST002D	EEFUD0J151R MATSUSHITA 6.3V
		CP607	0CZZTST002D	EEFUD0J151R MATSUSHITA 6.3V
		CP804	0CZZTST002D	EEFUD0J151R MATSUSHITA 6.3V
		CP806	0CZZTST002D	EEFUD0J151R MATSUSHITA 6.3V
		CB1906	0CZZTCT006C	C3225Y5V1E106Z TDK 25V 10UF
		CP1904	0CZZTST002C	EEFCD0J470R MATSUSHITA 6.3V
		CP1905	0CZZTST002B	EEFUD0G181R MATSUSHITA 4V 18
		CP1906	0CZZTST002D	EEFUD0J151R MATSUSHITA 6.3V
		C1004	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C1006	0CK105DK94A	"1UF 2012 50V 80%,-20% R/TP F"
		C601	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C602	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R

DATE: 2005. 01. 10.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C603	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C604	0CK822CK56A	8200PF 1608 50V 10% X7R R/TP
		C605	0CK822CK56A	8200PF 1608 50V 10% X7R R/TP
		C607	0CK334CF94A	"0.33UF 1608 16V 80%,-20% F(Y"
		C608	0CK334CF94A	"0.33UF 1608 16V 80%,-20% F(Y"
		C620	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C705	0CK393CK56A	39000PF 1608 50V 10% R/TP X7
		C706	0CK392CK56A	3900PF 1608 50V 10% R/TP X7R
		CB103	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB104	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB105	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB106	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB107	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB108	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB109	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB110	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB111	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB112	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB113	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB114	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1301	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1302	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1303	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1304	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1305	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1306	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1307	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1308	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1408	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB212	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB213	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB401	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		CB402	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB403	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		CB404	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB405	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		CB406	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		CB407	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		CB408	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB409	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		CB410	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		CB411	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		CB412	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB413	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB414	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB415	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB416	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB417	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		CB419	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		CB421	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		CB501	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		CB502	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		CB503	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		CB504	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y



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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		CB718	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB719	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB802	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		CB803	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		CB805	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		CB903	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		C1301	0CK474CH94A	"0.47UF 1608 25V 80%,-20% R/T"
		C1302	0CK474CH94A	"0.47UF 1608 25V 80%,-20% R/T"
		C1803	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C1902	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C1904	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C1905	0CK225DK94A	"2.2UF 2012 50V 80%,-20% F(Y5"
		C1910	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		CB1001	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1002	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1003	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1004	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1010	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1015	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1016	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1017	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1018	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1103	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1104	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1106	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1202	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1203	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1204	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1205	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1206	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1301	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1303	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1306	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1307	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1308	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1401	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1402	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1501	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1503	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1504	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1505	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1506	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1802	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1805	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1810	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1901	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB1902	0CK105DK94A	"1UF 2012 50V 80%,-20% R/TP F"
		CB1903	0CK105DK94A	"1UF 2012 50V 80%,-20% R/TP F"
		CB1904	0CK105DK94A	"1UF 2012 50V 80%,-20% R/TP F"
		CB1905	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB301	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB302	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB501	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB502	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB503	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB504	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB505	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB701	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB801	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB802	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB803	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB901	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R

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		CB902	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB903	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB905	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB909	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB910	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB911	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB912	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB913	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB914	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C503	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		C613	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C717	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C817	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C818	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		CB603	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		CB605	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		CB606	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		CB611	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		CB614	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		CB616	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		CB624	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		CB630	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		CB632	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		CB1411	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		CB1412	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		CB1414	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		CB1908	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB1909	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB1910	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB1911	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB1912	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB1913	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB1914	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB1915	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB1916	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB601	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB604	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		C1003	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C1005	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C1007	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C102	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C1201	0CC270CK41A	27PF 1608 50V 5% R/TP NP0
		C1202	0CC270CK41A	27PF 1608 50V 5% R/TP NP0
		C703	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C707	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C714	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C715	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C801	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C802	0CC471CK41A	470PF 1608 50V 5% R/TP NP0
		C804	0CC471CK41A	470PF 1608 50V 5% R/TP NP0
		C805	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		C806	0CC471CK41A	470PF 1608 50V 5% R/TP NP0
		C808	0CC471CK41A	470PF 1608 50V 5% R/TP NP0
		C904	0CC331CK41A	330PF 1608 50V 5% R/TP NP0
		C906	0CC331CK41A	330PF 1608 50V 5% R/TP NP0
		CB1006	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		CB1007	0CC221CK41A	220PF 1608 50V 5% R/TP NP0
		CB1009	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		CB1010	0CC221CK41A	220PF 1608 50V 5% R/TP NP0
		CB1011	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		CB1201	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		CB1202	0CC100CK41A	10PF 1608 50V 5% R/TP NP0

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		CB1203	0CC100CK41A	10PF 1608 50V 5% R/TP NP0
		CB1204	0CC100CK41A	10PF 1608 50V 5% R/TP NP0
		CB1205	0CC100CK41A	10PF 1608 50V 5% R/TP NP0
		CB1207	0CC101CK41A	100PF 1608 50V 5% R/TP NP0
		CB1402	0CC300CK41A	30PF 1608 50V 5% R/TP NP0
		CB1403	0CC300CK41A	30PF 1608 50V 5% R/TP NP0
		CB1404	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB1405	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB1406	0CC561CK41A	560PF 1608 50V 5% NP0 R/TP
		CB608	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB618	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB901	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		CB902	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C1101	0CC050CK11A	5PF 1608 50V 0.5 PF R/TP NP0
		C1102	0CC050CK11A	5PF 1608 50V 0.5 PF R/TP NP0
		C1103	0CC050CK11A	5PF 1608 50V 0.5 PF R/TP NP0
		C1104	0CC050CK11A	5PF 1608 50V 0.5 PF R/TP NP0
		C1105	0CC050CK11A	5PF 1608 50V 0.5 PF R/TP NP0
		C1203	0CC180CK41A	18PF 1608 50V 5% R/TP NP0
		C1204	0CC180CK41A	18PF 1608 50V 5% R/TP NP0
		C1801	0CC270CK41A	27PF 1608 50V 5% R/TP NP0
		C1802	0CC270CK41A	27PF 1608 50V 5% R/TP NP0
		C1906	0CC681CK41A	680PF 1608 50V 5% NP0 R/TP
		C1907	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		C1908	0CC681CK41A	680PF 1608 50V 5% NP0 R/TP
		C301	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		C302	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		C303	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		C304	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		C401	0CC270CK41A	27PF 1608 50V 5% R/TP NP0
		C402	0CC270CK41A	27PF 1608 50V 5% R/TP NP0
		C504	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		C505	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB1404	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		CB1405	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		CB1406	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		CB1407	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		CB1408	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		CB1409	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		CB1410	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		CB1415	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		CB1801	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB1803	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB1804	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB1807	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB1811	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB1907	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		CB2001	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		CB2002	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		CB2003	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		CB2004	0CC330CK41A	33PF 1608 50V 5% R/TP NP0
		CB402	0CC220CK41A	22PF 1608 50V 5% R/TP NP0
		CB406	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB602	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB603	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB605	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB606	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CP1001	0CE106VF6DC	10UF MV 16V 20% R/TP(SMD) SM
		CP1002	0CE226WJ6DC	22UF MVK 35V 20% R/TP(SMD) S
		CP1003	0CE226WJ6DC	22UF MVK 35V 20% R/TP(SMD) S
		CP1005	0CE226WJ6DC	22UF MVK 35V 20% R/TP(SMD) S
		CP1006	0CE106VF6DC	10UF MV 16V 20% R/TP(SMD) SM

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		CP1009	0CE107WJ6DC	100UF MVK 35V 20% R/TP(SMD)
		CP1010	0CE226WJ6DC	22UF MVK 35V 20% R/TP(SMD) S
		CP1012	0CE226WJ6DC	22UF MVK 35V 20% R/TP(SMD) S
		CP1015	0CE107WJ6DC	100UF MVK 35V 20% R/TP(SMD)
		CP1101	0CE476WK6DC	47UF MVK 50V 20% R/TP(SMD) S
		CP1102	0CE107WJ6DC	100UF MVK 35V 20% R/TP(SMD)
		CP1301	0CE226WJ6DC	22UF MVK 35V 20% R/TP(SMD) S
		CP1302	0CE226WJ6DC	22UF MVK 35V 20% R/TP(SMD) S
		CP1303	0CE226WJ6DC	22UF MVK 35V 20% R/TP(SMD) S
		CP1304	0CE226WJ6DC	22UF MVK 35V 20% R/TP(SMD) S
		CP1305	0CE226WJ6DC	22UF MVK 35V 20% R/TP(SMD) S
		CP1401	0CE106VF6DC	10UF MV 16V 20% R/TP(SMD) SM
		CP1402	0CE226WJ6DC	22UF MVK 35V 20% R/TP(SMD) S
		CP601	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		CP602	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		CP603	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		CP604	0CE475WJ6DC	4.7UF MVK 35V 20% R/TP(SMD)
		CP605	0CE475WJ6DC	4.7UF MVK 35V 20% R/TP(SMD)
		CP606	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		CP608	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		CP609	0CE227VF6DC	220UF MV 16V 20% R/TP(SMD) S
		CP701	0CE106VF6DC	10UF MV 16V 20% R/TP(SMD) SM
		CP702	0CE106VF6DC	10UF MV 16V 20% R/TP(SMD) SM
		CP703	0CE106VF6DC	10UF MV 16V 20% R/TP(SMD) SM
		CP704	0CE106VF6DC	10UF MV 16V 20% R/TP(SMD) SM
		CP705	0CE106VF6DC	10UF MV 16V 20% R/TP(SMD) SM
		CP706	0CE106VF6DC	10UF MV 16V 20% R/TP(SMD) SM
		CP707	0CH8337C611	330UF 6.3V 20% 85STD (CYL) R
		CP801	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		CP802	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		CP805	0CE476WK6DC	47UF MVK 50V 20% R/TP(SMD) S
		CP901	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		CP902	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		CP903	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		CP904	0CE107WF6DC	100UF MVK 16V 20% R/TP(SMD)
		U1002	0CE106VF6DC	10UF MV 16V 20% R/TP(SMD) SM
		C1202	0CE106VF6DC	10UF MV 16V 20% R/TP(SMD) SM
		CP1101	0CH8226F691	22UF 16V 20% 105STD (CYL) R/
		CP1301	0CE106VF6DC	10UF MV 16V 20% R/TP(SMD) SM
		CP1302	0CH8226F691	22UF 16V 20% 105STD (CYL) R/
		CP1304	0CH8106F691	10UF 16V 20% 105STD (CYL) R/
		CP1307	0CH8106F691	10UF 16V 20% 105STD (CYL) R/
		CP1308	0CE337WF6DC	330UF MVK 16V 20% R/TP(SMD)
		CP1309	0CE337WF6DC	330UF MVK 16V 20% R/TP(SMD)
		CP1310	0CH8226F691	22UF 16V 20% 105STD (CYL) R/
		CP1311	0CH8226F691	22UF 16V 20% 105STD (CYL) R/
		CP1501	0CE106VF6DC	10UF MV 16V 20% R/TP(SMD) SM
		CP1601	0CE106VF6DC	10UF MV 16V 20% R/TP(SMD) SM
		CP1602	0CE106VF6DC	10UF MV 16V 20% R/TP(SMD) SM
		CP1603	0CH8106F691	10UF 16V 20% 105STD (CYL) R/
		CP1801	0CH8226F691	22UF 16V 20% 105STD (CYL) R/
		CP1802	0CH8226F691	22UF 16V 20% 105STD (CYL) R/
		CP1901	0CH8227D611	220UF 10V 20% 85STD (CYL) R/
		CP1902	0CE106VF6DC	10UF MV 16V 20% R/TP(SMD) SM
		CP1903	0CE106VF6DC	10UF MV 16V 20% R/TP(SMD) SM
<b>DIODEs</b>				
		D1001	0DRON00198B	MBRD835LT4G ON SEMI R/TP D-P
		D1003	0DRDI00158A	"SMAJ16A-(F),LF DIODES R/TP S"
		D1102	0DRGS00199A	UF4001 GENERAL SEMICONDUCTOR
		D1002	0DRDI00118A	"B130LB-(F),LF DIODES R/TP SM"

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		D1004	0DRDI00118A	"B130LB-(F),LF DIODES R/TP SM"
		U1414	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		U1416	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		U1418	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		U1420	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		U1422	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D1301	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D1302	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D1304	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D501	0DSGF00019A	1N4148 GULF TP DO35 100V 0.1
		D1401	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		U1402	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		U1403	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		U1404	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		U1405	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		U1406	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		U1407	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		U1408	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		U1413	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		U1415	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		U1417	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		U1419	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		U1421	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		U605	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D1303	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D1305	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D1401	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D1402	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D1403	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D1404	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D1405	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D1406	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D1407	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D1408	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D1409	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D1411	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D1413	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D1801	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D1802	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D1901	0DSDI00078A	"BAT54C-(F),LF DIODES R/TP SO"
		D2011	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D2012	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D2013	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D2014	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D901	0DSDI00108A	"BAS70-(F),LF DIODES R/TP SOT"
		D902	0DSDI00108A	"BAS70-(F),LF DIODES R/TP SOT"
		D802	0DZ560009DA	UDZ S 5.6B TP ROHM-K SOD323
		D803	0DZ560009DA	UDZ S 5.6B TP ROHM-K SOD323
		D804	0DZ560009DA	UDZ S 5.6B TP ROHM-K SOD323
		D805	0DZ560009DA	UDZ S 5.6B TP ROHM-K SOD323
		D806	0DZ560009DA	UDZ S 5.6B TP ROHM-K SOD323
		D807	0DZ560009DA	UDZ S 5.6B TP ROHM-K SOD323
		D808	0DZ560009DA	UDZ S 5.6B TP ROHM-K SOD323
		D809	0DZ560009DA	UDZ S 5.6B TP ROHM-K SOD323
		D810	0DZ560009DA	UDZ S 5.6B TP ROHM-K SOD323
		D811	0DZ560009DA	UDZ S 5.6B TP ROHM-K SOD323
		D901	0DZ560009DA	UDZ S 5.6B TP ROHM-K SOD323
		D902	0DZ560009DA	UDZ S 5.6B TP ROHM-K SOD323
		D903	0DZ560009DA	UDZ S 5.6B TP ROHM-K SOD323
		D904	0DZ560009DA	UDZ S 5.6B TP ROHM-K SOD323
		D1101	0DZ330009DF	MTZJ33B TP ROHM-K DO34 0.5W
		D1103	0DZ330009DF	MTZJ33B TP ROHM-K DO34 0.5W

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
IC				
		U1401	0IKE702900G	KIA7029AF SOT-89 TP 2.9V VOL
		U1409	0IKE702900G	KIA7029AF SOT-89 TP 2.9V VOL
		U604	0IKE702900G	KIA7029AF SOT-89 TP 2.9V VOL
		U1903	0ILNRLM004A	MIC39300-2.5BU MICREL 3PIN T
		U301	0IMMRMR027B	MX29LV320ABTC-70 MACRONIX 48
		U701	0IMMRSG050A	M25P10-AVMN6TP SGS-THOMSON S
		U1502	0IMMRFU005C	"MBM29DL64DF-70TN-E,LF FUJITS"
		U201	0IMMRSS107A	K4S281632F-TL75 SAMSUNG ELE
		U202	0IMMRSS107A	K4S281632F-TL75 SAMSUNG ELE
		U501	0IMMRHY033C	HY57V643220DT-6 HYNIX 86P TS
		U601	0IMMRSS040C	S524A60X51(SCT0) SAMSUNG ELE
		U1001	0IMMRHY060C	HY5DU561622DTP-D43-A HYNIX 6
		U1002	0IMMRHY060C	HY5DU561622DTP-D43-A HYNIX 6
		U1202	0IMCRMJ009A	"CS8954 MYSON 44P,PQFP ST GEN"
		U1101	0ITH638300B	THC63LVDM83R THINE ELECTRONI
		U101	0IPRPSS004A	S3C2800 SAMSUNG ELECTRONICS
		U1201	0IPRPTI041A	CDCVF2505 TEXAS INSTRUMENT 8
		U1202	0IPRPHY013A	CY25812ZXCT(50MHZ) CYPRESS 8
		U502	0IPRPC3001A	"CX23416-12 CONEXANT 233P,BGA"
		U603	0IPRPMN003C	VCT49XYF C7(NTSC+PAL) MICRON
		U701	0IPRPTI042A	PCM1802 TEXAS INSTRUMENT 20P
		U702	0IPRPM3002B	"MST9883C-110 MSTAR 80P,LQFP"
		U1301	0IPRPTI063A	TPA6011A4PWP TEXAS INSTRUMEN
		U1302	0IPRPWM007A	"WM8728SEDS WOLFSON SSOP,20P"
		U1801	0IPRPHY013A	CY25812ZXCT(50MHZ) CYPRESS 8
		U1802	0IPRPTI041A	CDCVF2505 TEXAS INSTRUMENT 8
		U1905	0IPRPNS040A	LP3470M5-4.63 NATIONAL SEMIC
		U201	0IPRP6D001A	"EM8620L,REV C SIGMA DESIGN 4"
		U1001	0IPMGFA003D	FAN1117AS-1.8 FAIRCHILD 4P S
		U1003	0IPMGNS001F	LM1117MPX-ADJ NATIONAL SEMIC
		U1004	0IPMGFA003D	FAN1117AS-1.8 FAIRCHILD 4P S
		U1006	0IPMGLT024A	LTC1628CG-PGTRPBF LINEAR TEC
		U1901	0IPMGML030A	"MIC49150BMM MICREL 8P,MSOP R"
		U1904	0IPMGNS031A	LM2737MTC NATIONAL SEMICONDU
		U1007	0ISS780800J	"KA78M08R 3P,D-PAK TP VOL. RE"
		U1503	0ISTLON035A	"MC74LVX245DTR2 ON SEMI 20P,T"
		U1504	0ISTLON036A	"MC74LVX573DTR2 ON SEMI 20P,T"
		U1505	0ISTLON035A	"MC74LVX245DTR2 ON SEMI 20P,T"
		U1506	0ISTLON035A	"MC74LVX245DTR2 ON SEMI 20P,T"
		U1507	0ISTLON035A	"MC74LVX245DTR2 ON SEMI 20P,T"
		U1411	0ISTLON034A	"MC74LVX14DTR2 ON SEMI 14P,TS"
		U1412	0ISTLON034A	"MC74LVX14DTR2 ON SEMI 14P,TS"
		U402	0ISTLT1074A	SN74AC00DR TEXAS INSTRUMENT
		U1201	0ISTLON034A	"MC74LVX14DTR2 ON SEMI 14P,TS"
		U1401	0ISTLON034A	"MC74LVX14DTR2 ON SEMI 14P,TS"
		U1806	0ISTLON034A	"MC74LVX14DTR2 ON SEMI 14P,TS"
COIL & CORE & INDUCTOR				
		L1101	150-985B	DR8*11 2.4MH 0.16MM 270.5T
		L1004	6140TBZ007H	"SLF12575T-6R8N5R9,TDK SMD, 6"
		L1007	6140TBZ007H	"SLF12575T-6R8N5R9,TDK SMD, 6"
		L1901	6140TBZ047B	"RLF7030T-3R3M4R1,TDK,SMD, 3."
		L1902	6140TBZ047A	"RLF7030T-1R0N6R4, TDK SMD, 1"
		L701	6210TCE001F	HB-1S2012-800JT CERATEC 2012
		L1001	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L1002	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L1003	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L1005	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L1006	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L101	6210TCE001G	HH-1M3216-501 CERATEC 3216MM

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		L102	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L1102	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L1103	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L1104	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L1201	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L1301	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L401	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L402	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L703	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L801	6210TCE001F	HB-1S2012-800JT CERATEC 2012
		L803	6210TCE001P	HB-1S2012-121JT CERATECH 201
		L804	6210TCE001F	HB-1S2012-800JT CERATEC 2012
		L805	6210TCE001P	HB-1S2012-121JT CERATECH 201
		L806	6210TCE001F	HB-1S2012-800JT CERATEC 2012
		L807	6210TCE001F	HB-1S2012-800JT CERATEC 2012
		L901	6210TCE001G	HH-1M3216-501 CERATEC 3216MM
		L605	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-
		L609	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-
		L610	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-
		L1105	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-
		L601	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-
		L602	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-
		L603	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-
		L604	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-
		L606	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-
		L607	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-
		L608	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-
		L808	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-
		L809	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-
		L810	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-
		L811	0LC1032101A	10UH 10% 3216 R/TC FI-C3216-
FILTER				
		FB601	6210TCE0013	- CERATEC R/TP HB1M1608-121J
		L403	6200J00005N	HH-1M2012-121 CERATECH R/TP
		L702	6200J00005N	HH-1M2012-121 CERATECH R/TP
		FB1002	6200J00005H	HB-1S1608-200JT CERATECH R/T
		FB1101	6200J00005R	HB-1M1608-501JT CERATECH R/T
		FB1102	6200J00005T	HB-1S1608-400JT CERATECH R/T
		FB1103	6200J00005T	HB-1S1608-400JT CERATECH R/T
		FB1104	6200J00005T	HB-1S1608-400JT CERATECH R/T
		FB1105	6200J00005T	HB-1S1608-400JT CERATECH R/T
		FB1106	6200J00005T	HB-1S1608-400JT CERATECH R/T
		FB1107	6200J00005T	HB-1S1608-400JT CERATECH R/T
		FB1108	6200J00005T	HB-1S1608-400JT CERATECH R/T
		FB1109	6200J00005T	HB-1S1608-400JT CERATECH R/T
		FB1110	6200J00005T	HB-1S1608-400JT CERATECH R/T
		FB1111	6200J00005T	HB-1S1608-400JT CERATECH R/T
		FB1301	6200J00005H	HB-1S1608-200JT CERATECH R/T
		FB1302	6200J00005E	HH-1M2012-601JT CERATEC R/TP
		FB1303	6200J00005F	HB-1M1608-102JT CERATEC R/TP
		FB1304	6200J00005F	HB-1M1608-102JT CERATEC R/TP
		FB1305	6210TCE001S	HU-1M2012-121 CERATECH 2012M
		FB1401	6200J00005S	HH-1M2012-301JT CERATECH R/T
		FB1402	6200J00005S	HH-1M2012-301JT CERATECH R/T
		FB1403	6200J00005S	HH-1M2012-301JT CERATECH R/T
		FB1901	6200J00005H	HB-1S1608-200JT CERATECH R/T
		FB1902	6210TCE0013	- CERATEC R/TP HB1M1608-121J
		FB1903	6210TCE0013	- CERATEC R/TP HB1M1608-121J
		FB301	6200J00005H	HB-1S1608-200JT CERATECH R/T
		FB302	6200J00005H	HB-1S1608-200JT CERATECH R/T

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		FB602	6210TCE0013	- CERATEC R/TP HB1M1608-121J
		FB603	6210TCE0013	- CERATEC R/TP HB1M1608-121J
		FB801	6200J00005H	HB-1S1608-200JT CERATECH R/T
		FB902	6200J00005H	HB-1S1608-200JT CERATECH R/T
		U802	6200QL3002F	"X6966M EPCOS ST SIP5K, 6200Q"
FET & TRANSISTOR				
		U1101	0TF492509AA	SI4925DY TP TEMIC 30V 6.1A
		U1103	0TF492509AA	SI4925DY TP TEMIC 30V 6.1A
		Q601	0TR390609FA	KST3906-MTF TP SAMSUNG SOT2
		Q602	0TR390609FA	KST3906-MTF TP SAMSUNG SOT2
		Q603	0TR390609FA	KST3906-MTF TP SAMSUNG SOT2
		Q1102	0TR322809AB	KTC3228-Y(KTC2383) TP KEC TO
		Q1101	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC -
		Q1106	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC -
		Q604	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP
		Q801	0TR390409AE	FAIRCHILD KST3904(LGEMTF) TP
		Q901	0TR150400BA	CHIP 2SA1504S(ASY) BK KEC -
		Q902	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC -
		Q903	0TR150400BA	CHIP 2SA1504S(ASY) BK KEC -
		Q904	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC -
		Q905	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC -
		Q906	0TR150400BA	CHIP 2SA1504S(ASY) BK KEC -
		Q1401	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q1107	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q1108	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q1403	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q1404	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q1405	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q802	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		U1005	0TFFC80037A	FDS6982S FAIRCHILD R/TP SO-8
		U1008	0TFFC80037A	FDS6982S FAIRCHILD R/TP SO-8
		Q1201	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q1202	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q1301	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q1302	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q1303	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q1304	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q1306	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q1307	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q1401	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q1402	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q1901	0TFVI80039A	SI4965DY(DUAL P-CH) VISHAY R
		Q1902	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q1903	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q1904	0TFVI80039A	SI4965DY(DUAL P-CH) VISHAY R
		Q1905	0TFVI80046A	SI4826DY(DUAL N-CH) VISHAY R
		Q401	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q402	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
RESISTORS				
		RA101	0RHZTCZ001F	RCA SMART 4.7KOHM 1/16 W 5%
		RA102	0RHZTCZ001F	RCA SMART 4.7KOHM 1/16 W 5%
		RA201	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA202	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA203	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA204	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA205	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA206	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA207	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1



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		RA208	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA402	0RHZTCZ001F	RCA SMART 4.7KOHM 1/16 W 5%
		RA404	0RHZTCZ001F	RCA SMART 4.7KOHM 1/16 W 5%
		RA502	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA505	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA509	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA511	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA601	0RHZTCZ001G	RCA SMART 0OHM 1/16 W 5% 321
		RA602	0RHZTCZ001G	RCA SMART 0OHM 1/16 W 5% 321
		RA701	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA702	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA1001	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA1002	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA1003	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA1004	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA1005	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA1006	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA1007	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA1008	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		R1003	0RZZTTA002E	MPS HMR 0.01OHM 1 W 1% 6432
		R1023	0RZZTTA002E	MPS HMR 0.01OHM 1 W 1% 6432
		RA407	0RHZTCZ001F	RCA SMART 4.7KOHM 1/16 W 5%
		RA501	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA504	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA507	0RHZTCZ001F	RCA SMART 4.7KOHM 1/16 W 5%
		RA508	0RHZTCZ001F	RCA SMART 4.7KOHM 1/16 W 5%
		RA510	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA512	0RHZTCZ001D	RCA86TRJ22R0 SMART 22OHM 1/1
		RA201	0RHZTCZ001M	RCA SMART 10KOHM 1/16 W 5% 3
		RA202	0RHZTCZ001M	RCA SMART 10KOHM 1/16 W 5% 3
		R101	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R102	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R105	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R108	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R109	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R1203	0RJ4702D677	47000 OHM 1/10 W 5% 1608 R/T
		R1215	0RJ8201D677	8.2K OHM 1/10 W 5% 1608 R/TP
		R1302	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1303	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1304	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1305	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R1402	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1415	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1417	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1423	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R201	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R202	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R203	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R204	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R205	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R206	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R207	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R208	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R209	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R210	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R211	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R212	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R213	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R214	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R301	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R303	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R304	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R305	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R406	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R509	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R513	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R604	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R605	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R606	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R607	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R608	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R611	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R612	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R613	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R614	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R615	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R616	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R617	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R618	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R619	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R620	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R627	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R628	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R629	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R631	0RJ0822D677	82 OHM 1/10 W 5% 1608 R/TP
		R632	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R633	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R634	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R635	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R636	0RJ1500D677	150 OHM 1/10 W 5% 1608 R/TP
		R637	0RJ2200D677	220 OHM 1/10 W 5% 1608 R/TP
		R638	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R639	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R640	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R641	0RJ1500D677	150 OHM 1/10 W 5% 1608 R/TP
		R642	0RJ1500D677	150 OHM 1/10 W 5% 1608 R/TP
		R643	0RJ0822D677	82 OHM 1/10 W 5% 1608 R/TP
		R644	0RJ0822D677	82 OHM 1/10 W 5% 1608 R/TP
		R649	0RJ2200D677	220 OHM 1/10 W 5% 1608 R/TP
		R650	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R651	0RJ2200D677	220 OHM 1/10 W 5% 1608 R/TP
		R661	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R662	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R663	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R664	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R703	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R705	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R707	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R709	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R710	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R711	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R712	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R713	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R716	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		R718	0RH0222D622	22 OHM 1 / 10 W 2012 5.00% D
		R719	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R720	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R812	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R813	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R934	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R935	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		RD102	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		RD1403	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		RD606	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		RD607	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		RD608	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		RD609	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		RD610	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		RD611	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		RD612	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		RD613	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		RD614	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1002	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		RU102	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU104	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU106	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU107	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1402	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1403	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1404	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1405	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1410	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU401	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU402	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU404	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU405	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU406	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU407	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU409	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU601	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		RU602	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		RU603	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R1003	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R1004	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R1005	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R1006	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R1012	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R1013	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R1014	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R1015	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R1016	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R1017	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R1505	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R1601	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1602	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1604	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1605	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1606	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R2001	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R2002	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		RU1301	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1302	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		RU1601	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1602	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1604	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1606	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU2001	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R1002	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1004	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R1005	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R1006	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R1007	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R1008	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R1009	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R1010	0RJ1004D477	1M OHM 1/10 W 1% 1608 R/TP
		R1011	0RJ6342D477	63.4K OHM 1/10 W 1% 1608 R/T

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R1012	0RJ2002D677	20000 OHM 1/10 W 5% 1608 R/T
		R1014	0RJ1053D477	105K OHM 1/10 W 1% 1608 R/TP
		R1015	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R1016	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R1017	0RJ1004D477	1M OHM 1/10 W 1% 1608 R/TP
		R1018	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R1019	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R1020	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R1021	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R1022	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R107	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R1101	0RJ2000D677	200 OHM 1/10 W 5% 1608 R/TP
		R1105	0RJ4700D677	470 OHM 1/10 W 5% 1608 R/TP
		R1106	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R1107	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R1108	0RJ2000D677	200 OHM 1/10 W 5% 1608 R/TP
		R1110	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R1112	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R1113	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1114	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R1115	0RJ2200D677	220 OHM 1/10 W 5% 1608 R/TP
		R1116	0RJ3300D677	330 OHM 1/10 W 5% 1608 R/TP
		R1117	0RJ1500D677	150 OHM 1/10 W 5% 1608 R/TP
		R1118	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R1119	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R1121	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R1122	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R1123	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R1124	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R1125	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1126	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1127	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R1128	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R1201	0RJ4702D677	47000 OHM 1/10 W 5% 1608 R/T
		R1202	0RJ4702D677	47000 OHM 1/10 W 5% 1608 R/T
		R1204	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R1205	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R1206	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R1207	0RJ8201D677	8.2K OHM 1/10 W 5% 1608 R/TP
		R1208	0RJ8201D677	8.2K OHM 1/10 W 5% 1608 R/TP
		R1209	0RJ8201D677	8.2K OHM 1/10 W 5% 1608 R/TP
		R1210	0RJ8201D677	8.2K OHM 1/10 W 5% 1608 R/TP
		R1211	0RJ8201D677	8.2K OHM 1/10 W 5% 1608 R/TP
		R1212	0RJ8201D677	8.2K OHM 1/10 W 5% 1608 R/TP
		R1213	0RJ8201D677	8.2K OHM 1/10 W 5% 1608 R/TP
		R1214	0RJ8201D677	8.2K OHM 1/10 W 5% 1608 R/TP
		R1216	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R1217	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R1218	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R1219	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R1221	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R1222	0RJ1004D477	1M OHM 1/10 W 1% 1608 R/TP
		R1223	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R1225	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R1228	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R1229	0RJ0682D677	68 OHM 1/10 W 5% 1608 R/TP
		R1401	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R1407	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R1410	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R1411	0RJ1004D477	1M OHM 1/10 W 1% 1608 R/TP
		R1412	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R1413	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R1414	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1421	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1422	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1428	0RJ0472D677	47 OHM 1/10 W 5% 1608 R/TP
		R1429	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1431	0RJ1003D677	100K OHM 1/10 W 5% 1608 R/TP
		R1433	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R307	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R308	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R310	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R403	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R404	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R407	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R408	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R412	0RJ5101D677	5.1K OHM 1/10 W 5% 1608 R/TP
		R502	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R503	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R504	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R505	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R506	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R507	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R508	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R510	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R511	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R512	0RJ2702D677	27K OHM 1/10 W 5% 1608 R/TP
		R514	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R515	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R516	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R517	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R630	0RJ2202D677	22K OHM 1/10 W 5% 1608 R/TP
		R652	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R653	0RJ2701D677	2.7K OHM 1/10 W 5% 1608 R/TP
		R654	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R701	0RJ5101D677	5.1K OHM 1/10 W 5% 1608 R/TP
		R704	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R708	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R714	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R715	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R717	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R801	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R804	0RJ4703D677	470K OHM 1/10 W 5% 1608 R/TP
		R805	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R806	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R807	0RJ4703D677	470K OHM 1/10 W 5% 1608 R/TP
		R808	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R809	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R810	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R811	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R815	0RJ3000D677	300 OHM 1/10 W 5% 1608 R/TP
		R816	0RJ0682D677	68 OHM 1/10 W 5% 1608 R/TP
		R817	0RJ8200D677	820 OHM 1/10 W 5% 1608 R/TP
		R818	0RJ1501D677	1.5K OHM 1/10 W 5% 1608 R/TP
		R819	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R820	0RJ0562D677	56 OHM 1/10 W 5% 1608 R/TP
		R822	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R823	0RJ6801D677	6800 OHM 1/10 W 5% 1608 R/TP
		R824	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R825	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R826	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R828	0RJ4700D677	470 OHM 1/10 W 5% 1608 R/TP
		R901	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R902	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R903	0RH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R904	0RH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R905	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R906	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R907	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R908	0RJ1500D677	150 OHM 1/10 W 5% 1608 R/TP
		R909	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R910	0RJ1500D677	150 OHM 1/10 W 5% 1608 R/TP
		R911	0RJ4700D677	470 OHM 1/10 W 5% 1608 R/TP
		R912	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R913	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R914	0RJ4700D677	470 OHM 1/10 W 5% 1608 R/TP
		R915	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R916	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R919	0RH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R920	0RH0000D622	0 OHM 1 / 10 W 2012 5.00% D
		R921	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R922	0RJ0472D677	47 OHM 1/10 W 5% 1608 R/TP
		R923	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R924	0RJ0752D677	75 OHM 1/10 W 5% 1608 R/TP
		R925	0RJ1500D677	150 OHM 1/10 W 5% 1608 R/TP
		R926	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R927	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R928	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R930	0RJ4700D677	470 OHM 1/10 W 5% 1608 R/TP
		RD1002	0RJ1502D677	15K OHM 1/10 W 5% 1608 R/TP
		RD1003	0RJ1502D677	15K OHM 1/10 W 5% 1608 R/TP
		RD1005	0RJ2002D677	20000 OHM 1/10 W 5% 1608 R/T
		RD101	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RD1401	0RJ3300D677	330 OHM 1/10 W 5% 1608 R/TP
		RD701	0RJ4702D677	47000 OHM 1/10 W 5% 1608 R/T
		RD702	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		RU1001	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU108	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU109	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1401	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1406	0RJ1004D477	1M OHM 1/10 W 1% 1608 R/TP
		RU1411	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU408	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU701	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU702	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R1001	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R1002	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R1201	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R1202	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1203	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R1204	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R1205	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R1206	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R1207	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1208	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1210	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R1211	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R1212	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1214	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R1215	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1217	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R1218	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1219	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R1220	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R1221	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1223	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R1224	0RJ1005D677	10M OHM 1/10 W 5% 1608 R/TP
		R1301	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R1302	0RJ1003D677	100K OHM 1/10 W 5% 1608 R/TP
		R1303	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R1305	0RJ3002D477	30K OHM 1/10 W 1% 1608 R/TP
		R1307	0RJ2002D477	20K OHM 1/10 W 1% 1608 R/TP
		R1308	0RJ4991D477	4.99K OHM 1/10 W 1% 1608 R/T
		R1309	0RJ1003D677	100K OHM 1/10 W 5% 1608 R/TP
		R1310	0RJ2001D477	2K OHM 1/10 W 1% 1608 R/TP
		R1311	0RJ1002D477	10K OHM 1/10 W 1% 1608 R/TP
		R1312	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R1313	0RJ2001D477	2K OHM 1/10 W 1% 1608 R/TP
		R1314	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R1318	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1319	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1320	0RJ4991D477	4.99K OHM 1/10 W 1% 1608 R/T
		R1321	0RJ4991D477	4.99K OHM 1/10 W 1% 1608 R/T
		R1501	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1514	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R1801	0RJ1004D477	1M OHM 1/10 W 1% 1608 R/TP
		R1802	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R1807	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R1808	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R1809	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R1811	0RJ0392D677	39 OHM 1/10 W 5% 1608 R/TP
		R1812	0RJ0392D677	39 OHM 1/10 W 5% 1608 R/TP
		R1813	0RJ0392D677	39 OHM 1/10 W 5% 1608 R/TP
		R1814	0RJ0392D677	39 OHM 1/10 W 5% 1608 R/TP
		R1815	0RJ0392D677	39 OHM 1/10 W 5% 1608 R/TP
		R1901	0RJ1003D677	100K OHM 1/10 W 5% 1608 R/TP
		R1902	0RJ1003D677	100K OHM 1/10 W 5% 1608 R/TP
		R1905	0RJ6801D677	6800 OHM 1/10 W 5% 1608 R/TP
		R1906	0RJ2201D677	2200 OHM 1/10 W 5% 1608 R/TP
		R1907	0RJ1003D677	100K OHM 1/10 W 5% 1608 R/TP
		R1908	0RJ2202D677	22K OHM 1/10 W 5% 1608 R/TP
		R1909	0RJ1501D677	1.5K OHM 1/10 W 5% 1608 R/TP
		R1910	0RJ0662D477	66.5 OHM 1/10 W 1% 1608 R/TP
		R1911	0RJ1002D477	10K OHM 1/10 W 1% 1608 R/TP
		R1912	0RJ1002D477	10K OHM 1/10 W 1% 1608 R/TP
		R1913	0RJ1072D477	10.7K OHM 1/10 W 1% 1608 R/T
		R201	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R202	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R203	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R204	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R205	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R206	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R207	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R402	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R404	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R406	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R408	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R410	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R412	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R418	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R419	0RJ1004D477	1M OHM 1/10 W 1% 1608 R/TP
		R501	0RJ3300D677	330 OHM 1/10 W 5% 1608 R/TP
		R901	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		RD1101	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RD201	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RD202	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RD203	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RD501	0RJ1000D477	100 OHM 1/10 W 1% 1608 R/TP

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		RD502	0RJ1000D477	100 OHM 1/10 W 1% 1608 R/TP
		RD701	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RD703	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RD704	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1101	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1201	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1202	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1203	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1204	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1205	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1207	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1208	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		RU1209	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1210	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1211	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1212	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1213	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1214	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1215	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1216	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1217	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1218	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1219	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1220	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1221	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1222	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1223	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1304	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1305	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1401	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1402	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1403	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1404	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1406	0RJ1501D677	1.5K OHM 1/10 W 5% 1608 R/TP
		RU1407	0RJ1501D677	1.5K OHM 1/10 W 5% 1608 R/TP
		RU1408	0RJ1501D677	1.5K OHM 1/10 W 5% 1608 R/TP
		RU1409	0RJ1501D677	1.5K OHM 1/10 W 5% 1608 R/TP
		RU1501	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1502	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1801	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1802	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		RU1901	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU1902	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		RU1904	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU201	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU202	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		RU203	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU204	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU205	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU206	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU207	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU208	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU209	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU401	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		RU402	0RJ3301D677	3.3K OHM 1/10 W 5% 1608 R/TP
		RU701	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU702	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU703	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU704	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP

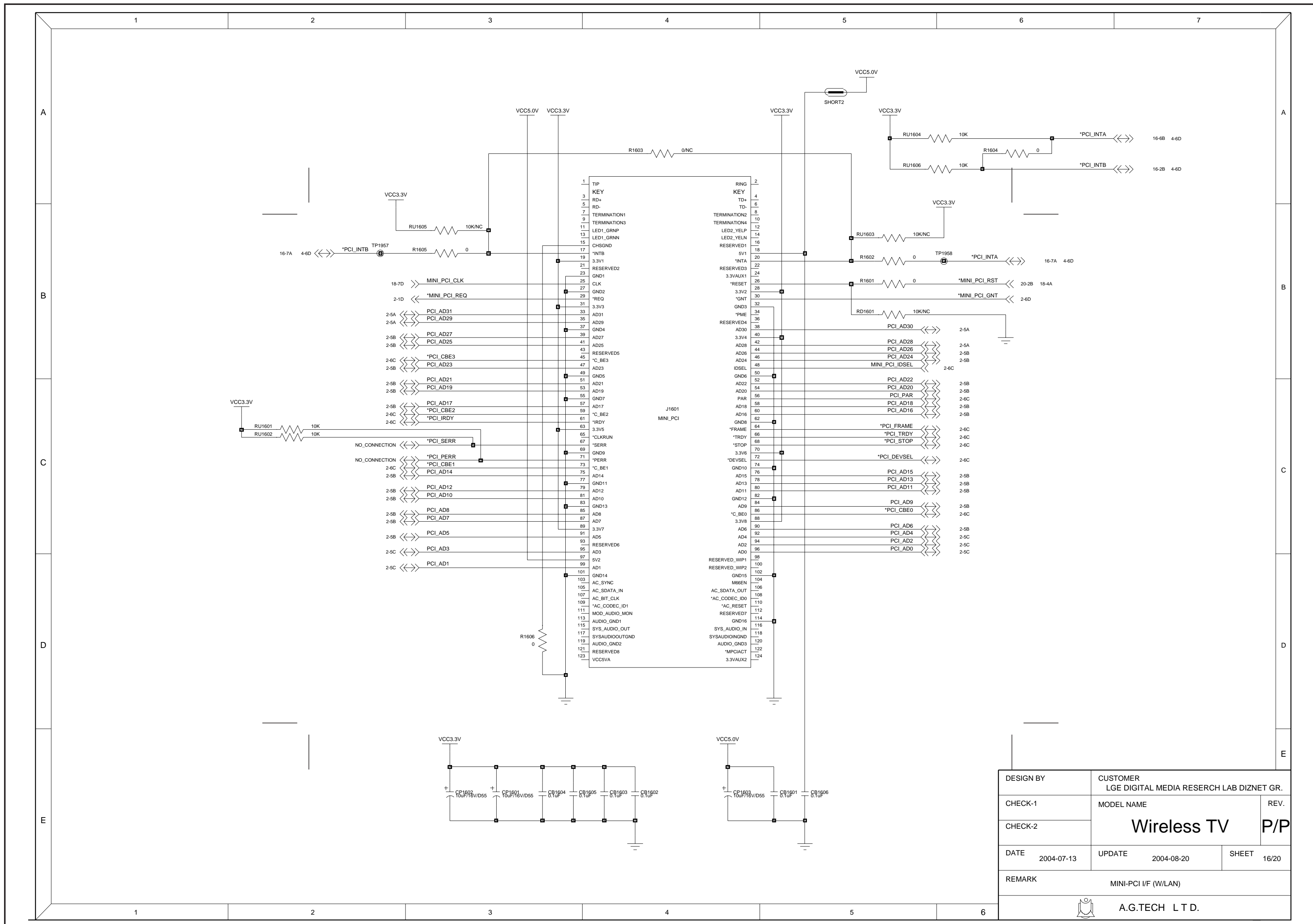
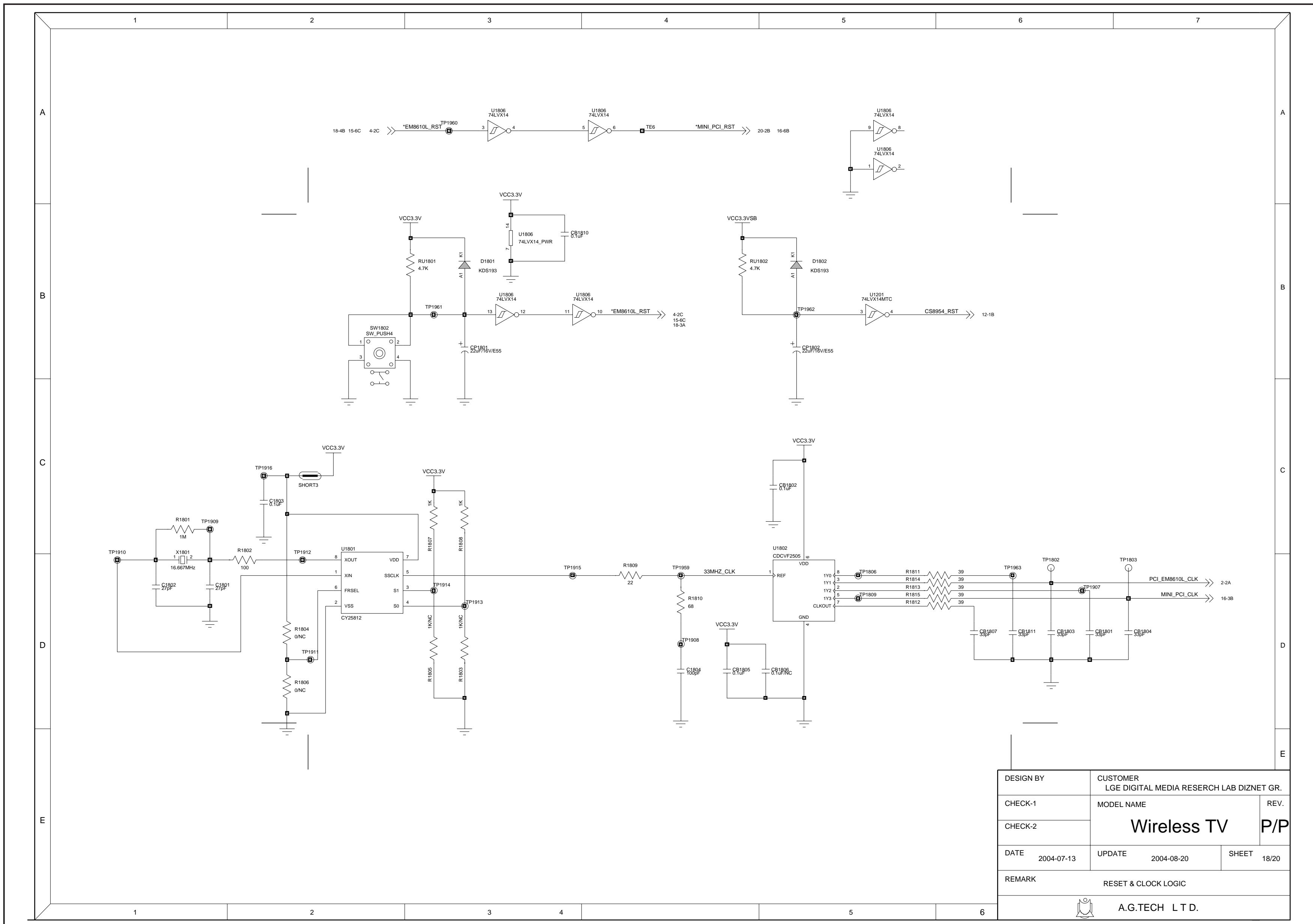
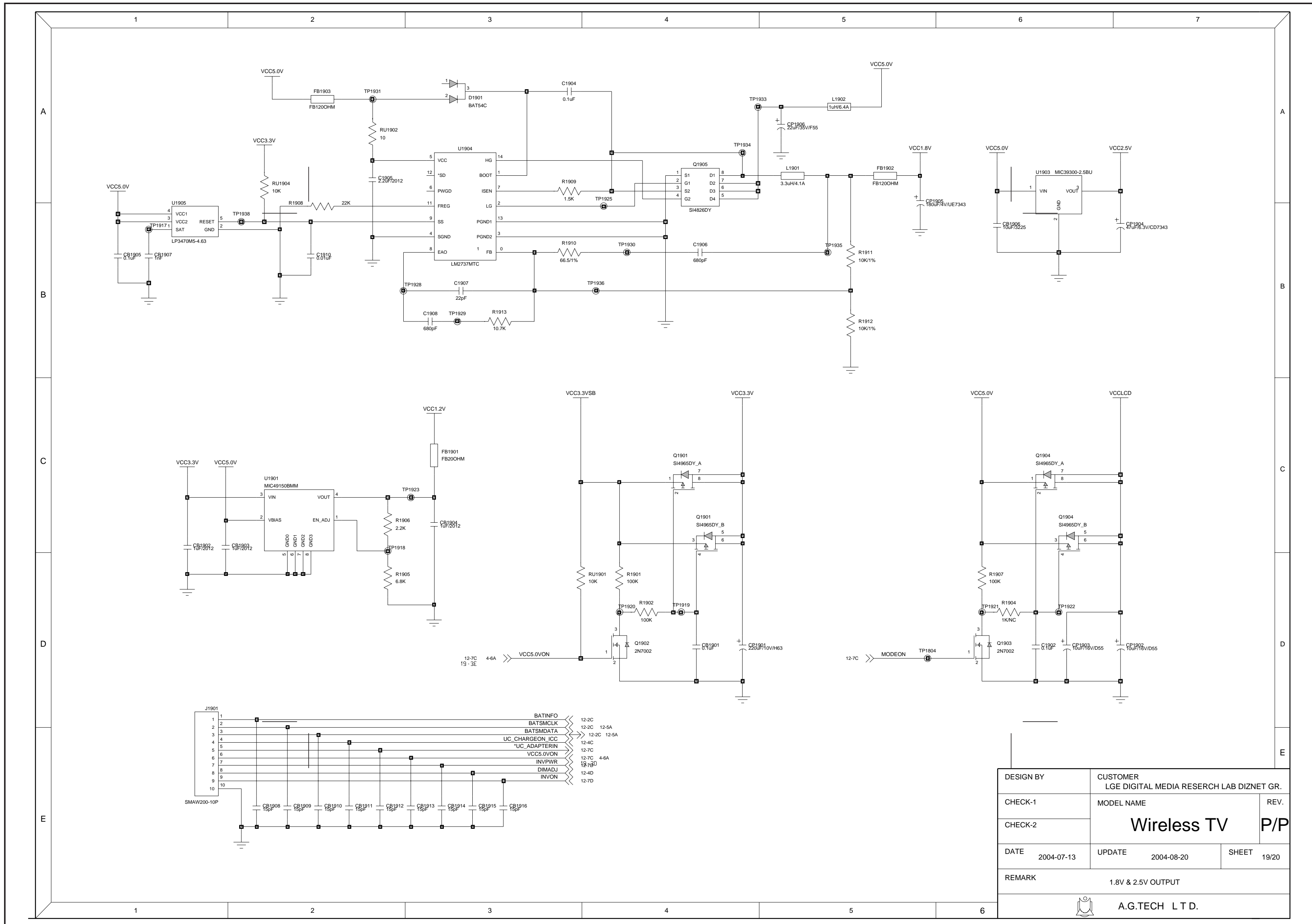
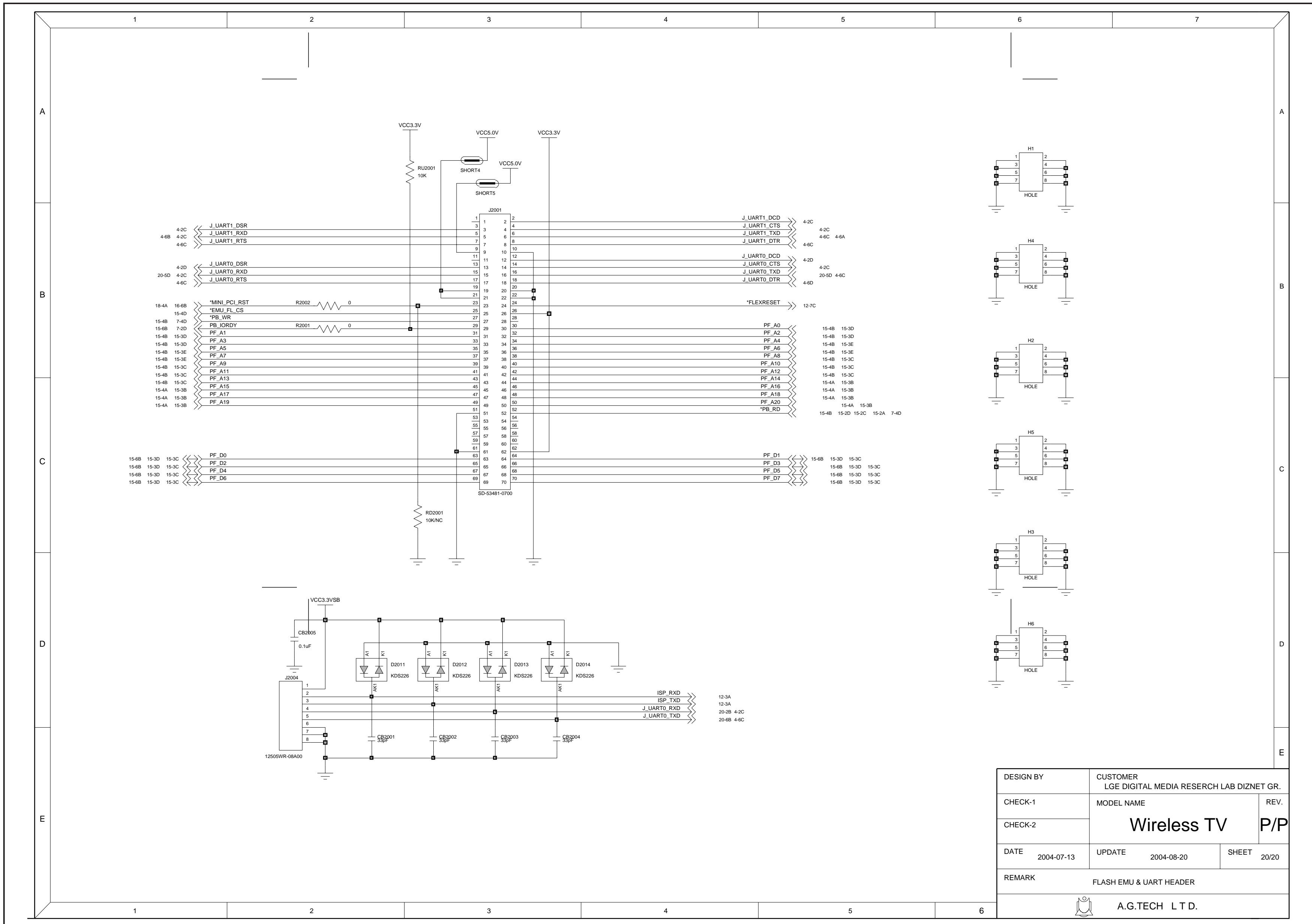
DATE: 2005. 01. 10.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
<b>OTHERs</b>				
		X1402	6202TST001C	"SX-1, SUNNY SMD, 6.0MHZ ,50P"
		LD1401	0DLLT0340AA	LITEON LTL-14CDJNHBP1 BK GRE
		LD1101	0DLBE0158AA	BRIGHT LED ELECTRONICS BL-HB
		LD1103	0DLBE0158AA	BRIGHT LED ELECTRONICS BL-HB
		LD1107	0DLBE0158AA	BRIGHT LED ELECTRONICS BL-HB
		LD1108	0DLBE0158AA	BRIGHT LED ELECTRONICS BL-HB
		LD1109	0DLBE0158AA	BRIGHT LED ELECTRONICS BL-HB
		LD1110	0DLBE0158AA	BRIGHT LED ELECTRONICS BL-HB
		X401	6204B48344A	K3750HB CHUNGHO ELCOM 27.0MH
		X701	6204B48344B	K3750HC CHUNGHO ELCOM 12.288
		X1201	6202VDT002L	SX-1 SUNNY 16.667MHZ +/- 30
		X601	6202TST003C	HC-49/SM5H KONY CHIP 20.25MH
		X1201	6202TST003D	HC-49/SM5H KONY CHIP 12 MHZ
		X1801	6202VDT002L	SX-1 SUNNY 16.667MHZ +/- 30
		X401	6202TST001H	SX-1 SUNNY 27MHZ +/- 30 PPM
		SW1401	6600R00005A	JTP1212BS NAMA E 12VDC 50MA V
		SW1802	6600TR1002A	SKQGACE010 J-ALPS NON 12V 50
		TU801	6700VS0003D	TAEW-G052P LGIT MULTI VS RCA
<b>POWER BOARD</b>				
<b>CAPACITOR</b>				
		CP201	0CH8476J611	47UF 35V M 85STD (CYL) R/TP
		CB206	0CH3104K946	100000PF 50V Z F 2012 R/TP
		CB220	0CH3104K946	100000PF 50V Z F 2012 R/TP
		CB221	0CH3104K946	100000PF 50V Z F 2012 R/TP
		CB313	0CH3104K946	100000PF 50V Z F 2012 R/TP
		CB202	0CZZTCT006C	C3225Y5V1E106Z TDK 25V 10UF
		CB203	0CZZTCT006C	C3225Y5V1E106Z TDK 25V 10UF
		CB311	0CZZTCT006C	C3225Y5V1E106Z TDK 25V 10UF
		CB312	0CZZTCT006C	C3225Y5V1E106Z TDK 25V 10UF
		CP302	0CZZTST002B	EEFUD0G181R MATSUSHITA 4V 18
		CP303	0CZZTST002D	EEFUD0J151R MATSUSHITA 6.3V
		C201	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C202	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C203	0CK474CH94A	"0.47UF 1608 25V 80%,-20% R/T"
		C204	0CK474CH94A	"0.47UF 1608 25V 80%,-20% R/T"
		C301	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		C306	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C307	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB201	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB204	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB205	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB207	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB208	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB209	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB210	0CK105CD56A	1UF 1608 10V 10% R/TP X7R
		CB211	0CK105CD56A	1UF 1608 10V 10% R/TP X7R
		CB212	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB213	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		CB214	0CK103CK51A	0.01UF 1608 50V 10% R/TP B(Y
		CB215	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB216	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB219	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB301	0CK105DK94A	"1UF 2012 50V 80%,-20% R/TP F"
		CB302	0CK105DK94A	"1UF 2012 50V 80%,-20% R/TP F"
		CB304	0CK222CK51A	2200PF 1608 50V 10% R/TP B(Y
		CB305	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB306	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB307	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB309	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		CB310	0CK105CD56A	1UF 1608 10V 10% R/TP X7R
		C302	0CC221CK41A	220PF 1608 50V 5% R/TP NP0
		C303	0CC221CK41A	220PF 1608 50V 5% R/TP NP0
		C304	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C305	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C308	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		C309	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		CB217	0CC221CK41A	220PF 1608 50V 5% R/TP NP0
		CB218	0CC221CK41A	220PF 1608 50V 5% R/TP NP0
		CB222	0CC151CK41A	150PF 1608 50V 5% NP0 R/TP
		CB223	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB224	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB225	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB226	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB227	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB228	0CC150CK41A	15PF 1608 50V 5% R/TP NP0
		CB303	0CC102CK41A	1000PF 1608 50V 5% R/TP NP0
		CP203	0CE227WJ6DC	220UF MVK/RC 35V 20% SMD TAP
		CP204	0CE227WJ6DC	220UF MVK/RC 35V 20% SMD TAP
		CP306	0CE475WJ6DC	4.7UF MVK 35V 20% R/TP(SMD)
		CP307	0CE226WJ6DC	22UF MVK 35V 20% R/TP(SMD) S
		CP308	0CE226WJ6DC	22UF MVK 35V 20% R/TP(SMD) S
		CP309	0CE227WJ6DC	220UF MVK/RC 35V 20% SMD TAP
<b>DIODEs</b>				
		D208	0DRDI00068A	B0540W DIODES R/TP SOD123 40
		D212	0DRON00198B	MBRD835LT4G ON SEMI R/TP D-P
		D301	0DRDI00118A	"B130LB-(F),LF DIODES R/TP SM"
		D302	0DRDI00118A	"B130LB-(F),LF DIODES R/TP SM"
		D303	0DRDI00158A	"SMAJ16A-(F),LF DIODES R/TP S"
		D209	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D210	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D211	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D213	0DSDI00078A	"BAT54C-(F),LF DIODES R/TP SO"
<b>IC</b>				
		U201	0IPMGMX008A	"MAX1772EEI MAXIM 28P,QSOP R/"
		U301	0IPMGLT024A	LTC1628CG-PGTRPBF LINEAR TEC
<b>COIL &amp; CORE</b>				
		L301	6140TBZ007H	"SLF12575T-6R8N5R9,TDK SMD, 6"
		L302	6140TBZ007H	"SLF12575T-6R8N5R9,TDK SMD, 6"
		L201	6140VR0008B	SLF12575T-150M3R2 15UH SMD
<b>FILTER</b>				
		FB201	6210TCE001X	"HU-1H4532-121 CERATEC,120 OH"
		FB202	6210TCE001X	"HU-1H4532-121 CERATEC,120 OH"
		FB301	6210TCE0013	- CERATEC R/TP HB1M1608-121J
		FB302	6210TCE0013	- CERATEC R/TP HB1M1608-121J
<b>FET &amp; TRANSISTOR</b>				
		Q205	0TF492509AA	SI4925DY TP TEMIC 30V 6.1A
		Q206	0TF492509AA	SI4925DY TP TEMIC 30V 6.1A
		Q201	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q202	0TFVI80014A	VISHAY SI4404DY R/TP SO-8 30
		Q203	0TFVI80041A	SI4812DY(N-CH) VISHAY R/TP S
		Q204	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V

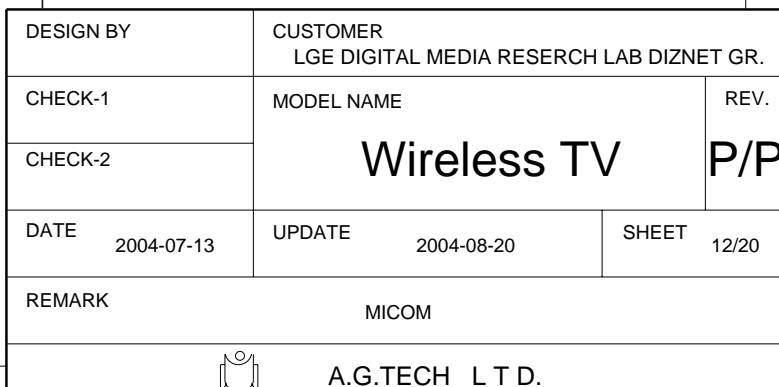
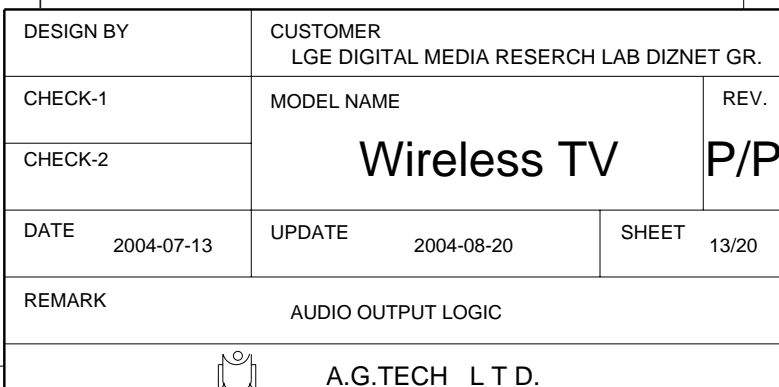
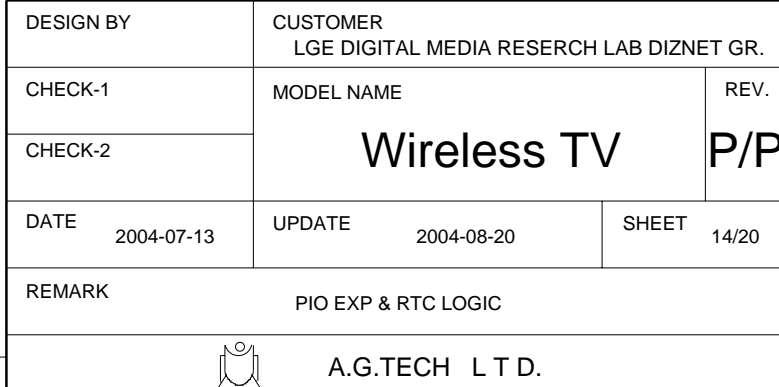
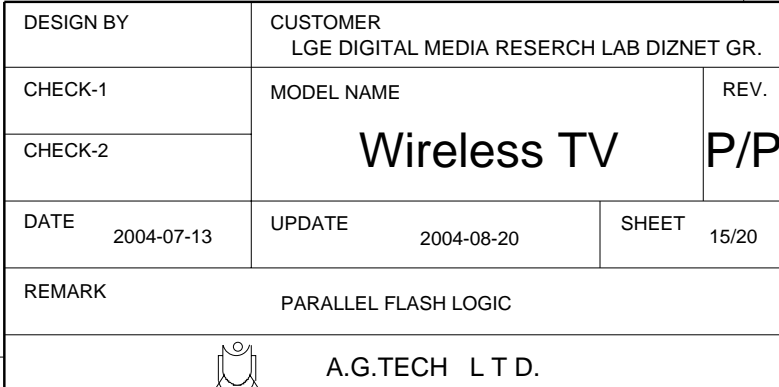
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		Q305	0TFDI80001A	2N7002 DIODES R/TP SOT23 60V
		Q306	0TFFC80037A	FDS6982S FAIRCHILD R/TP SO-8
		Q307	0TFFC80037A	FDS6982S FAIRCHILD R/TP SO-8
<b>RESISTORS</b>				
		R208	0RH0471D622	4.7 1/10W 5 D.R/TP
		R210	0RH0471D622	4.7 1/10W 5 D.R/TP
		R204	0RZZTTA002D	MPS HMR 0.04OHM 1 W 1% 6432
		R206	0RZZTTA002C	MPS HMR 0.03OHM 1 W 1% 6432
		R330	0RZZTTA002B	MPS HMR 0.008OHM 1 W 1% 6432
		R331	0RZZTTA002B	MPS HMR 0.008OHM 1 W 1% 6432
		R201	0RJ1503D677	150K OHM 1/10 W 5% 1608 R/TP
		R202	0RJ3000D677	300 OHM 1/10 W 5% 1608 R/TP
		R203	0RJ3002D677	30000 OHM 1/10 W 5% 1608 R/T
		R205	0RJ0221D677	2.2 OHM 1/10 W 5% 1608 R/TP
		R207	0RJ0221D677	2.2 OHM 1/10 W 5% 1608 R/TP
		R209	0RJ0332D677	33 OHM 1/10 W 5% 1608 R/TP
		R211	0RJ1072D477	10.7K OHM 1/10 W 1% 1608 R/T
		R213	0RJ1502D477	15K OHM 1/10 W 1% 1608 R/TP
		R214	0RJ4702D677	47000 OHM 1/10 W 5% 1608 R/T
		R215	0RJ4702D677	47000 OHM 1/10 W 5% 1608 R/T
		R216	0RJ3002D677	30000 OHM 1/10 W 5% 1608 R/T
		R217	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R218	0RJ1503D677	150K OHM 1/10 W 5% 1608 R/TP
		R219	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R220	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R222	0RJ1000D677	100 OHM 1/10 W 5% 1608 R/TP
		R223	0RJ2002D677	20000 OHM 1/10 W 5% 1608 R/T
		R224	0RJ1053D477	105K OHM 1/10 W 1% 1608 R/TP
		R225	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R226	0RJ1003D677	100K OHM 1/10 W 5% 1608 R/TP
		R227	0RJ1003D677	100K OHM 1/10 W 5% 1608 R/TP
		R228	0RJ4701D677	4.7K OHM 1/10 W 5% 1608 R/TP
		R230	0RJ3002D477	30K OHM 1/10 W 1% 1608 R/TP
		R231	0RJ1002D477	10K OHM 1/10 W 1% 1608 R/TP
		R301	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R302	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R303	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R304	0RJ1001D677	1K OHM 1/10 W 5% 1608 R/TP
		R307	0RJ2002D477	20K OHM 1/10 W 1% 1608 R/TP
		R308	0RJ1502D677	15K OHM 1/10 W 5% 1608 R/TP
		R309	0RJ1502D677	15K OHM 1/10 W 5% 1608 R/TP
		R310	0RJ2002D477	20K OHM 1/10 W 1% 1608 R/TP
		R311	0RJ6342D477	63.4K OHM 1/10 W 1% 1608 R/T
		R312	0RJ1053D477	105K OHM 1/10 W 1% 1608 R/TP
		R313	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R314	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R315	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R316	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R317	0RJ1004D477	1M OHM 1/10 W 1% 1608 R/TP
		R318	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R319	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R322	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R323	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R324	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R325	0RJ1004D477	1M OHM 1/10 W 1% 1608 R/TP
		R326	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R327	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
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		R329	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP

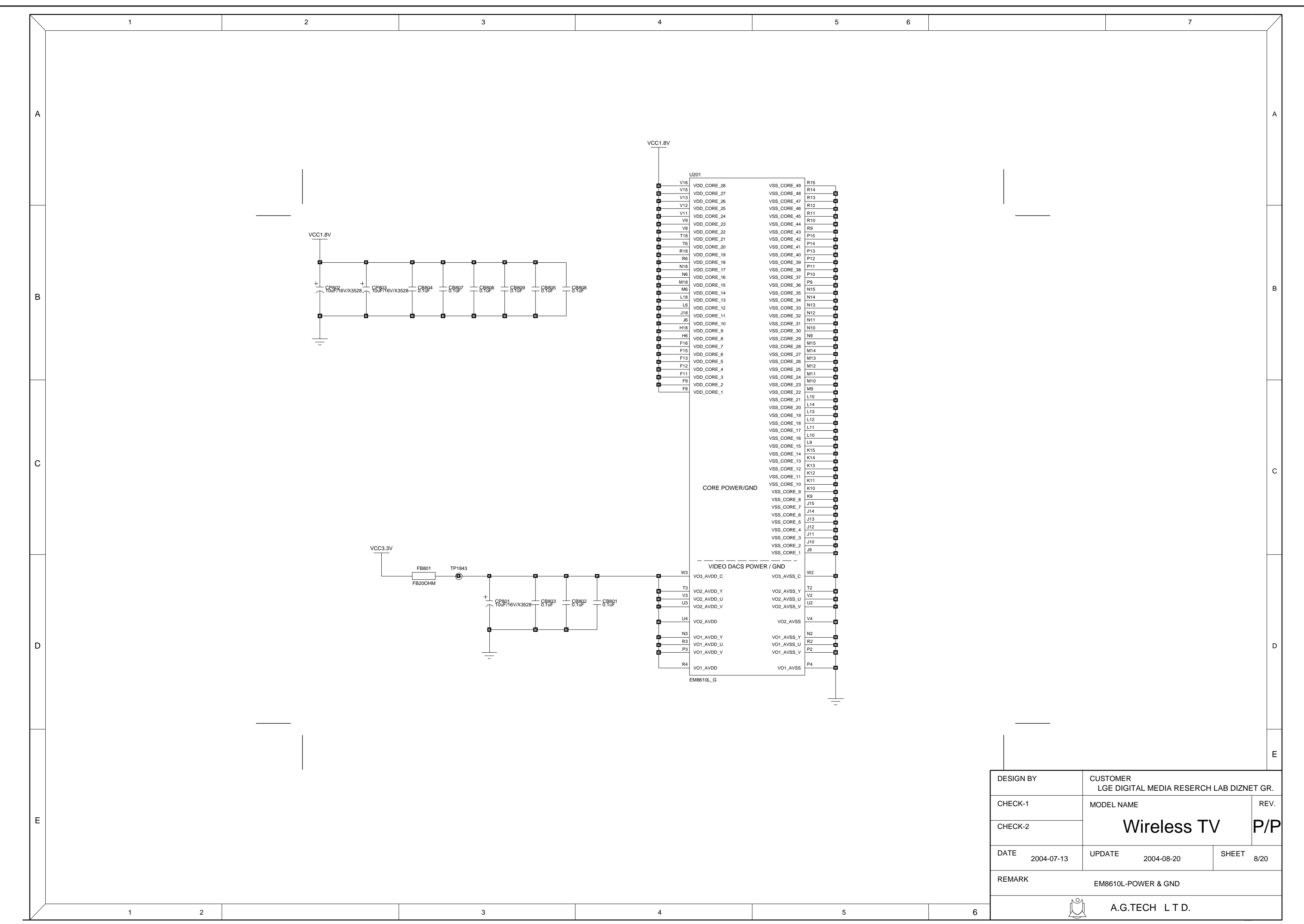
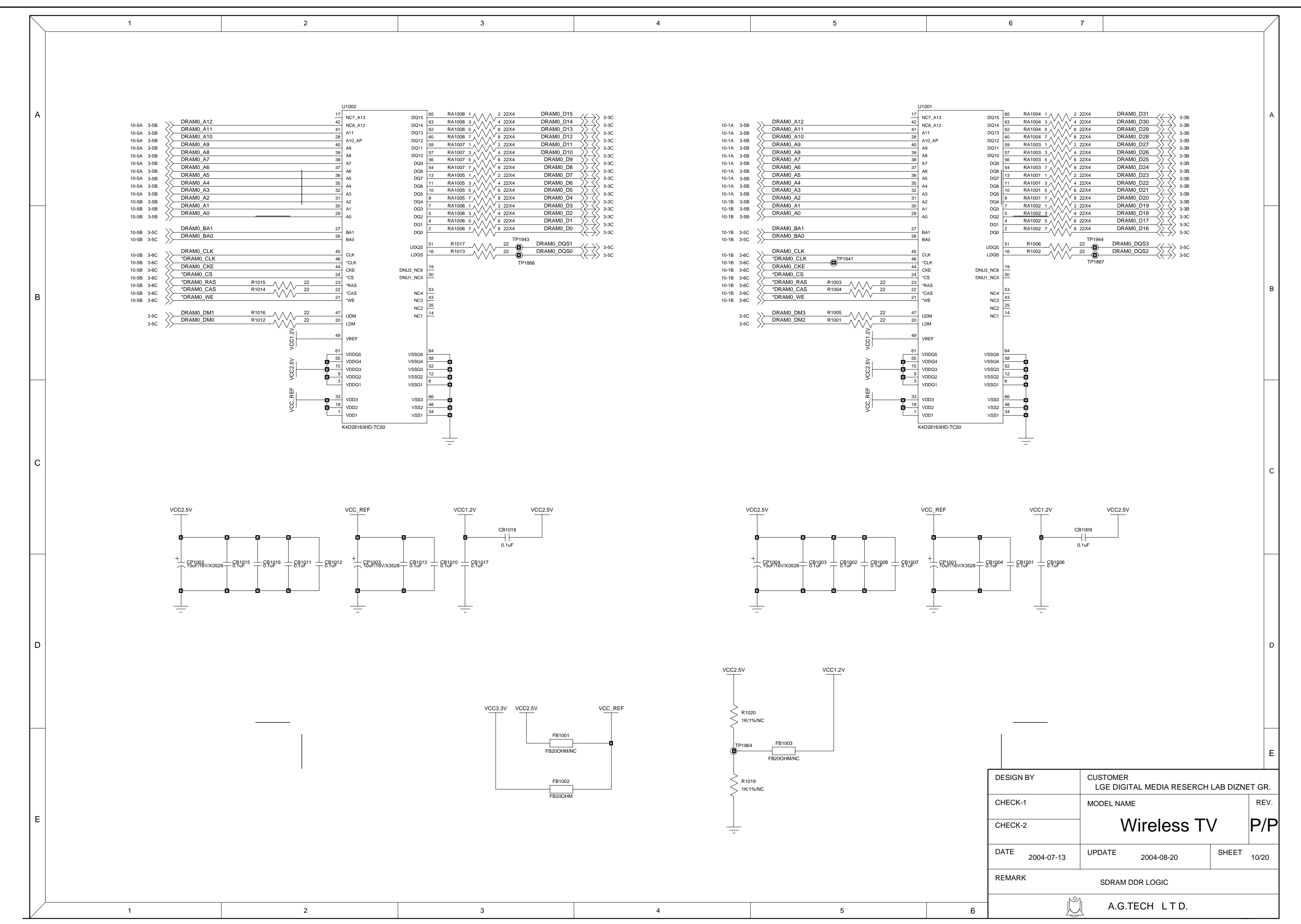
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		R332	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R333	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R334	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R335	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R336	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R337	0RJ0102D677	10 OHM 1/10 W 5% 1608 R/TP
		R338	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R339	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RD201	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RD202	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RD203	0RJ1502D677	15K OHM 1/10 W 5% 1608 R/TP
		RD204	0RJ9102D677	91K OHM 1/10 W 5% 1608 R/TP
		RD205	0RJ1003D677	100K OHM 1/10 W 5% 1608 R/TP
		RU201	0RJ1003D677	100K OHM 1/10 W 5% 1608 R/TP
		RU202	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		RU203	0RJ2201D677	2200 OHM 1/10 W 5% 1608 R/TP
		RU204	0RJ2201D677	2200 OHM 1/10 W 5% 1608 R/TP
<b>OTHERS</b>				
		LD201	0DL210009GC	SML-210MT TP ROHM GREEN .
<b>CONTROL BOARD</b>				
		SW201	140-058B	EVQ PB2 05K MATUSHITA NON 12
		SW202	140-058B	EVQ PB2 05K MATUSHITA NON 12
		SW203	140-058B	EVQ PB2 05K MATUSHITA NON 12
		SW204	140-058B	EVQ PB2 05K MATUSHITA NON 12
		SW205	140-058B	EVQ PB2 05K MATUSHITA NON 12
		SW206	140-058B	EVQ PB2 05K MATUSHITA NON 12
		SW207	140-058B	EVQ PB2 05K MATUSHITA NON 12
		SW208	140-058B	EVQ PB2 05K MATUSHITA NON 12
		U1	6712SCA232A	TSOP34838SO1 VISHAY 38KHZ LF
		CB201	0CC471CK41A	470PF 1608 50V 5% R/TP NP0
		CB202	0CC471CK41A	470PF 1608 50V 5% R/TP NP0
		CB203	0CC471CK41A	470PF 1608 50V 5% R/TP NP0
		CB204	0CC471CK41A	470PF 1608 50V 5% R/TP NP0
		CB205	0CC471CK41A	470PF 1608 50V 5% R/TP NP0
		CB206	0CC471CK41A	470PF 1608 50V 5% R/TP NP0
		CB207	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB208	0CC471CK41A	470PF 1608 50V 5% R/TP NP0
		CB209	0CC471CK41A	470PF 1608 50V 5% R/TP NP0
		CB210	0CC471CK41A	470PF 1608 50V 5% R/TP NP0
		CB211	0CC471CK41A	470PF 1608 50V 5% R/TP NP0
		CB212	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB213	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB214	0CK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		CB215	0CC471CK41A	470PF 1608 50V 5% R/TP NP0
		CP201	0CE106VF6DC	10UF MV 16V 20% R/TP(SMD) SM
		D201	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D202	0DS226009AA	KDS226 TP KEC SOT-23 80V 30
		D203	0DZ360009EB	UDZ 3.6B TP ROHM SOD323 200M
		D204	0DZ360009EB	UDZ 3.6B TP ROHM SOD323 200M
		D205	0DZ360009EB	UDZ 3.6B TP ROHM SOD323 200M
		D206	0DZ360009EB	UDZ 3.6B TP ROHM SOD323 200M
		FB201	6200J00005H	HB-1S1608-200JT CERATECH R/T
		FB202	6210TCE001H	HB-1T2012-301JT CERATECH 2012
		LD201	0DL210009GC	SML-210MT TP ROHM GREEN .
		LD202	0DLLT0208AA	LITEON LTST-C155KGJSKT R/TP
		LD203	0DLBE0158AA	BRIGHT LED ELECTRONICS BL-HB
		LD204	0DLBE0158AA	BRIGHT LED ELECTRONICS BL-HB
		LD205	0DLBE0158AA	BRIGHT LED ELECTRONICS BL-HB



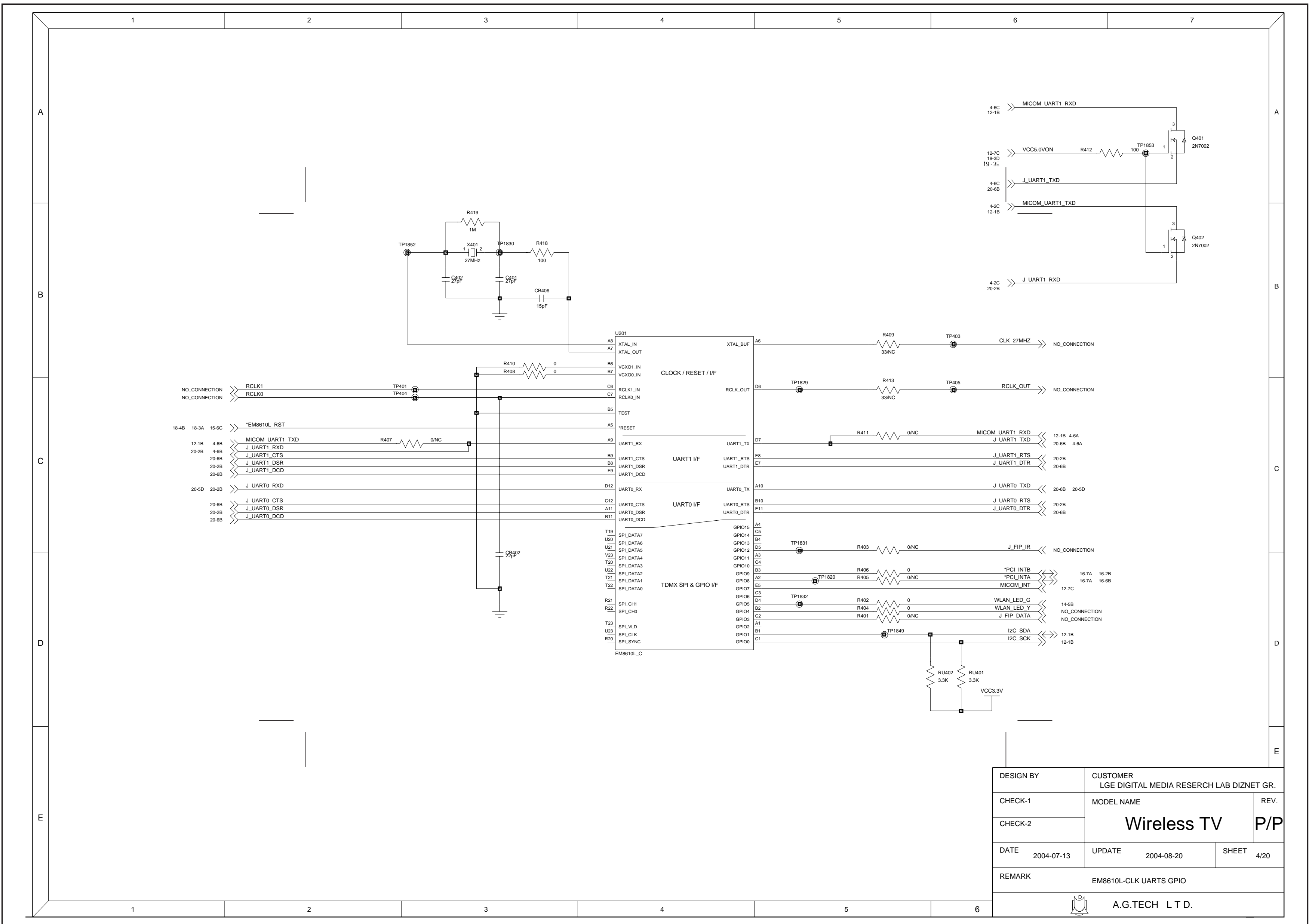
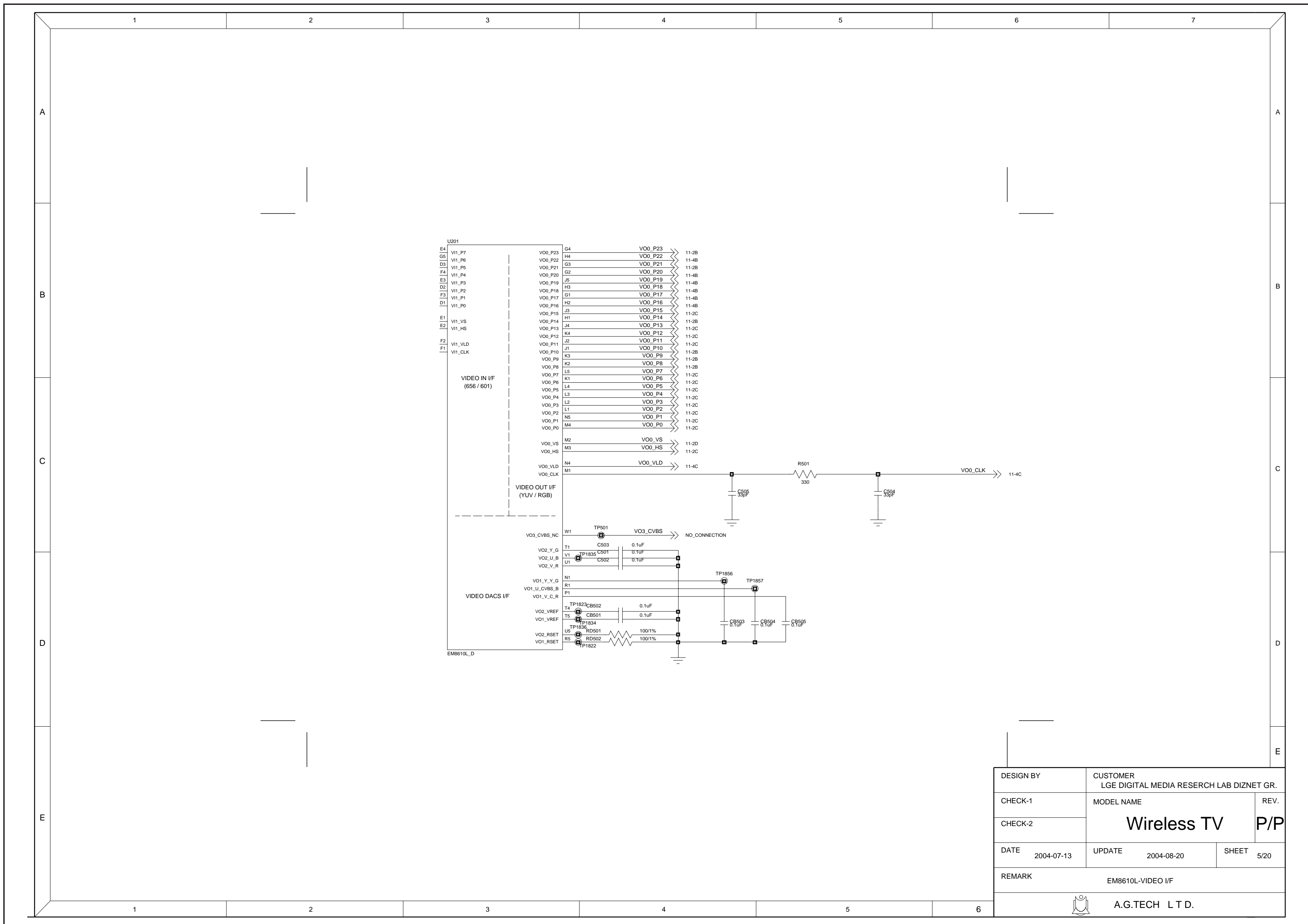
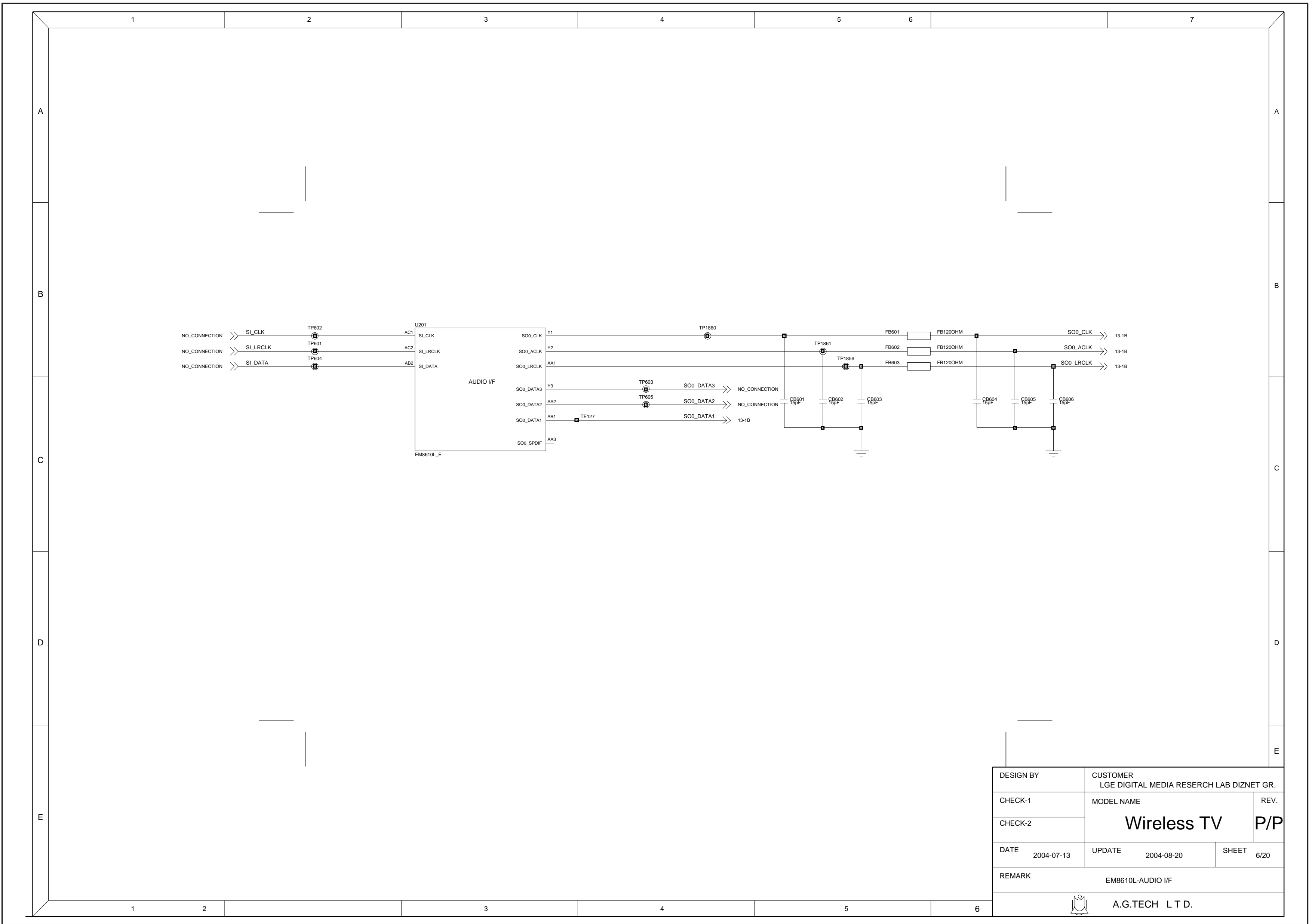
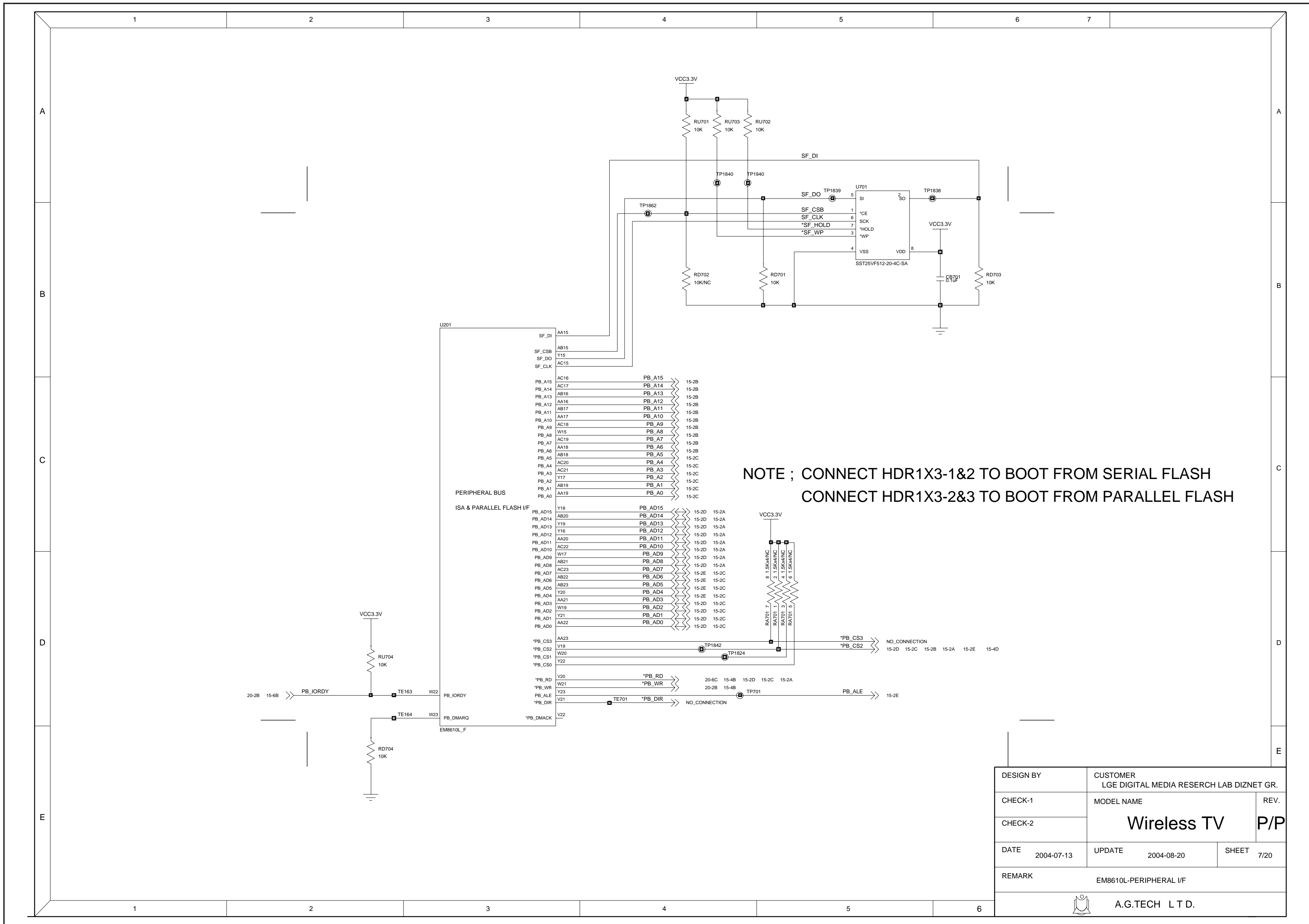


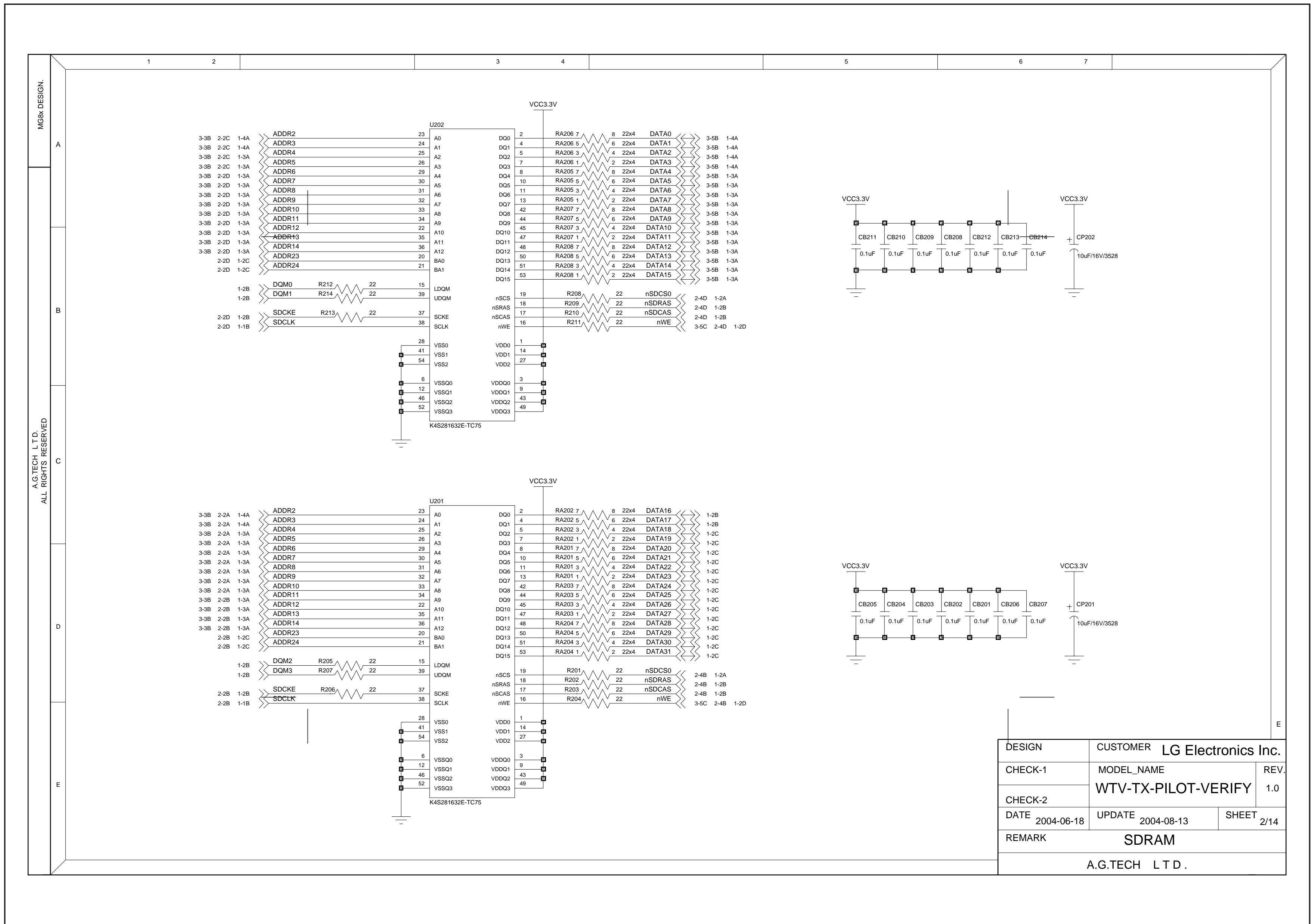
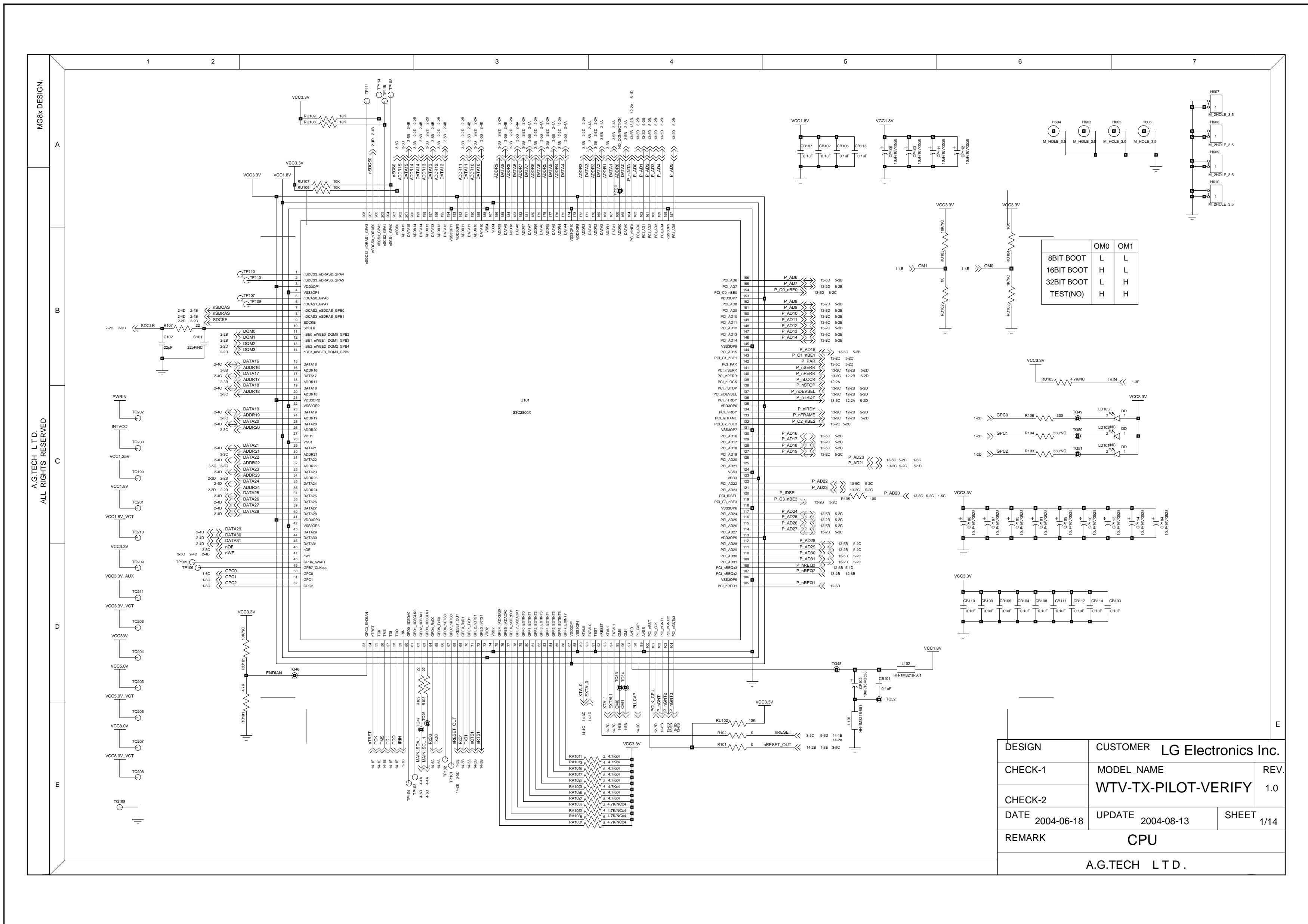
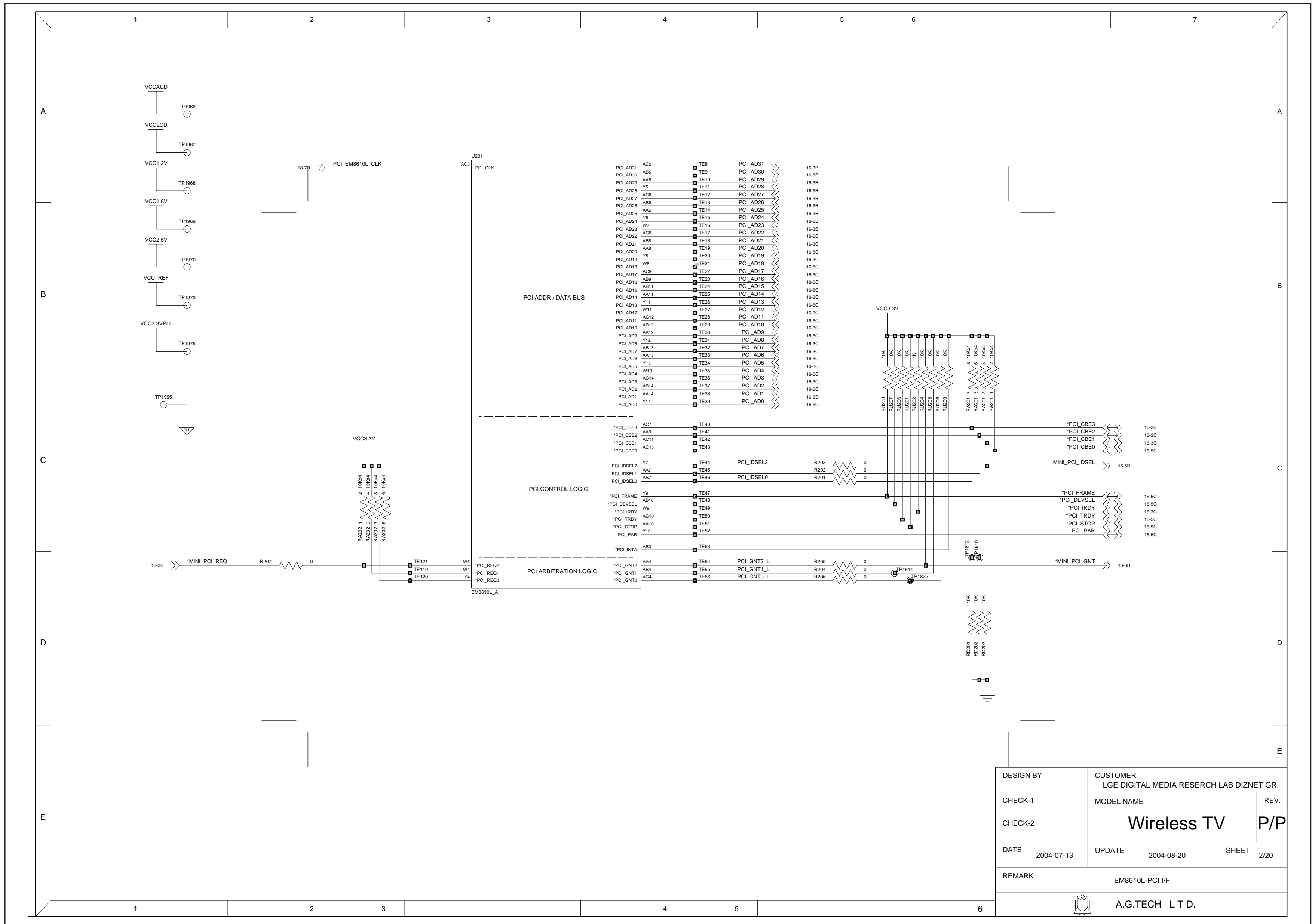
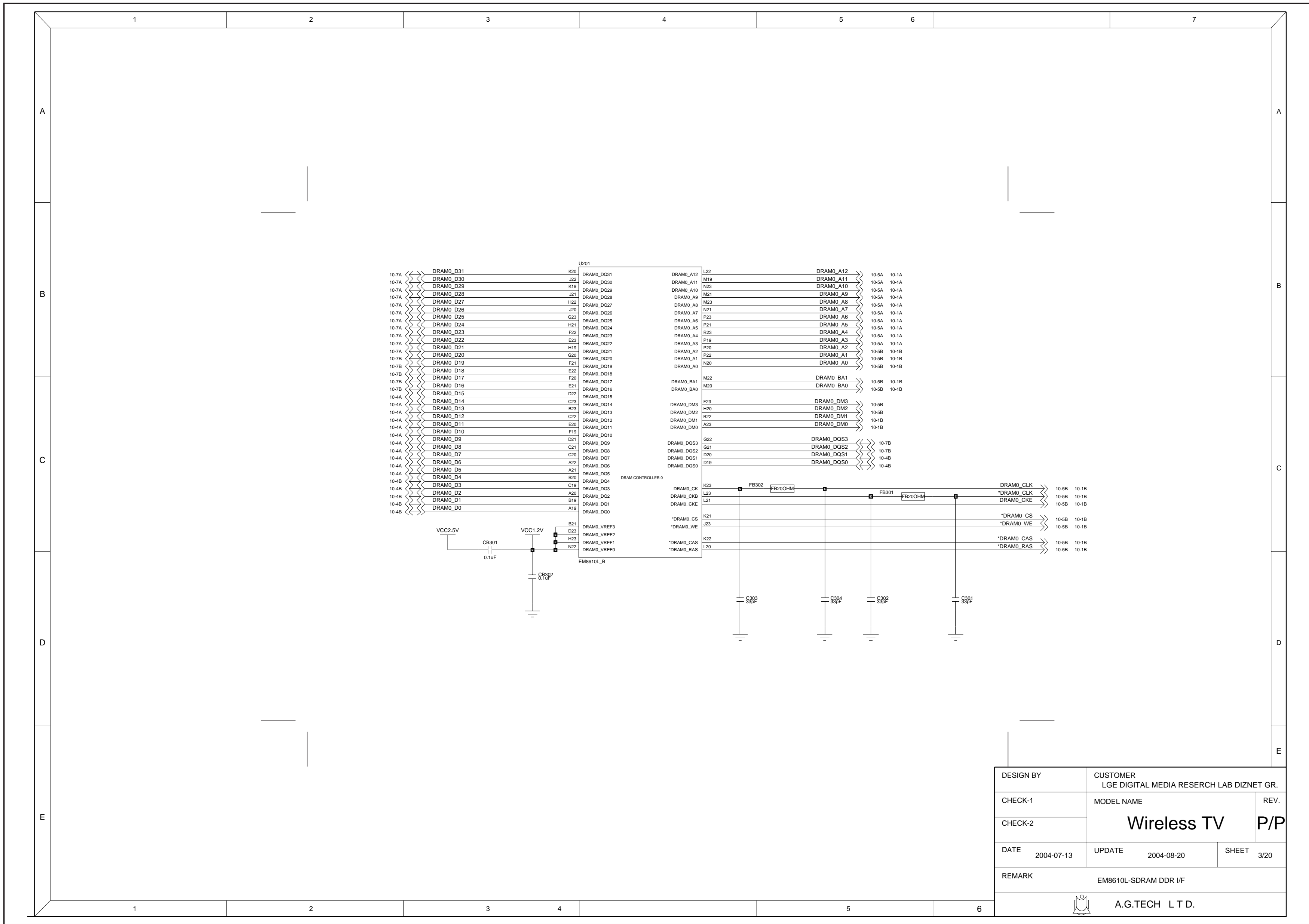








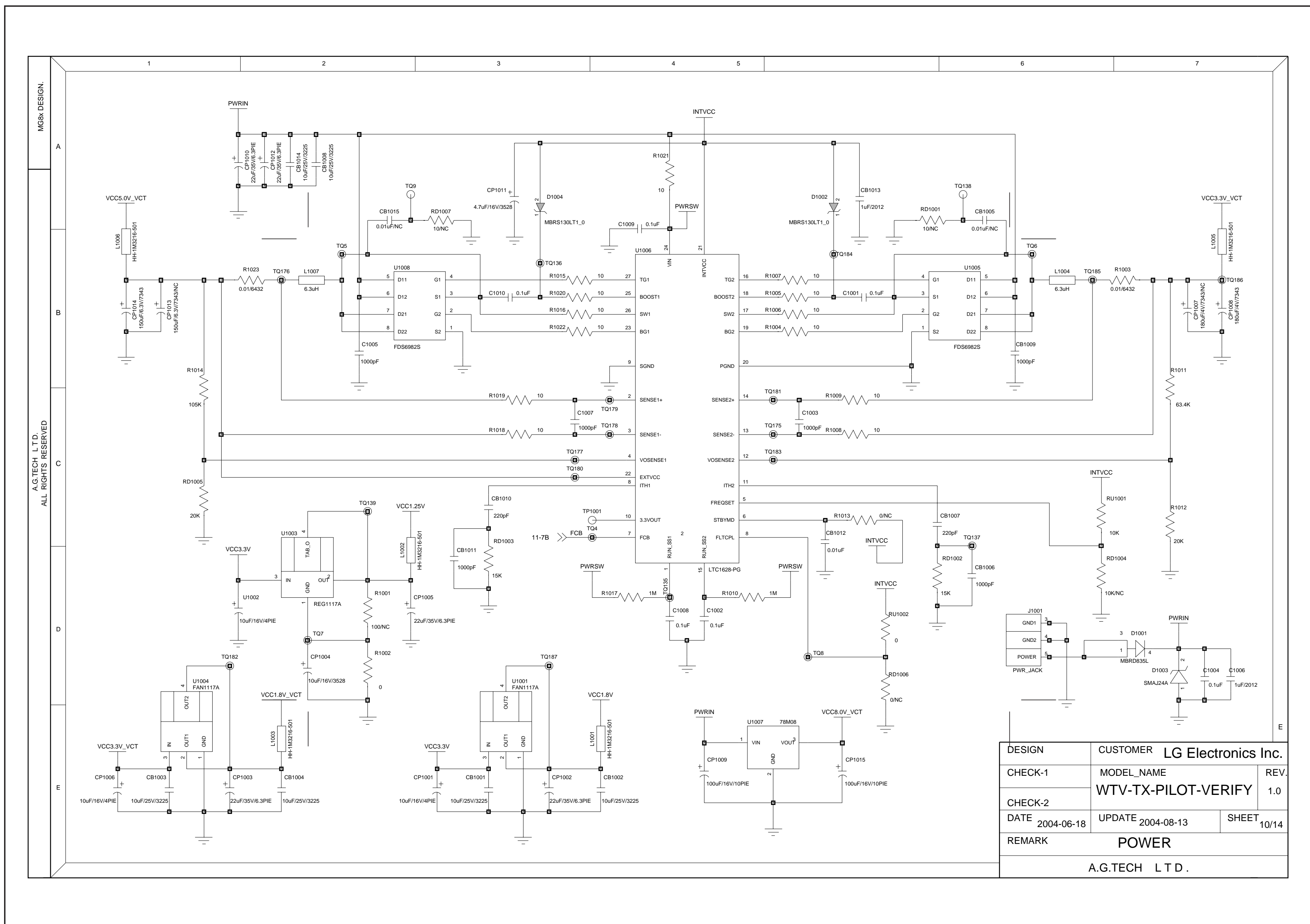
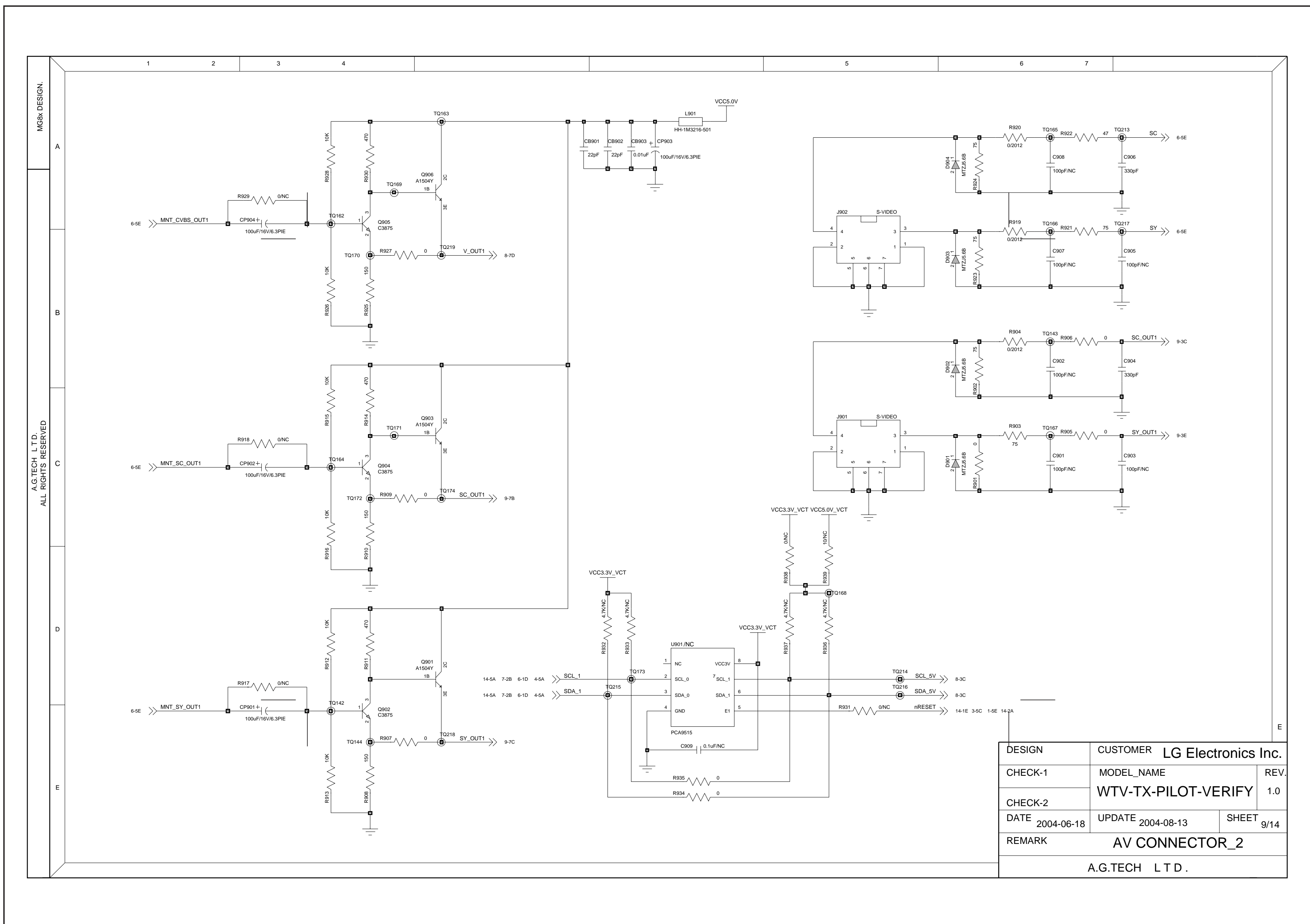
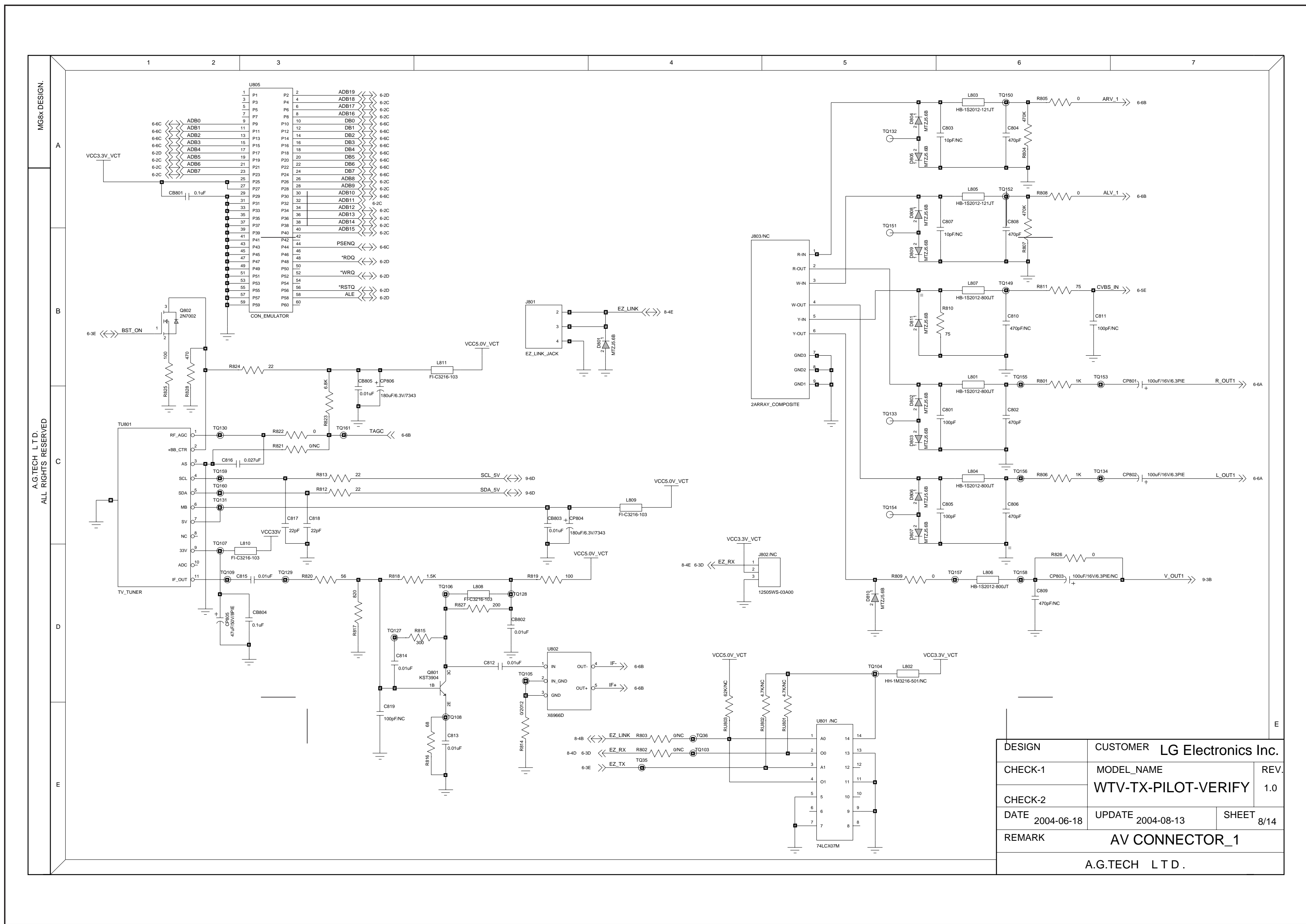
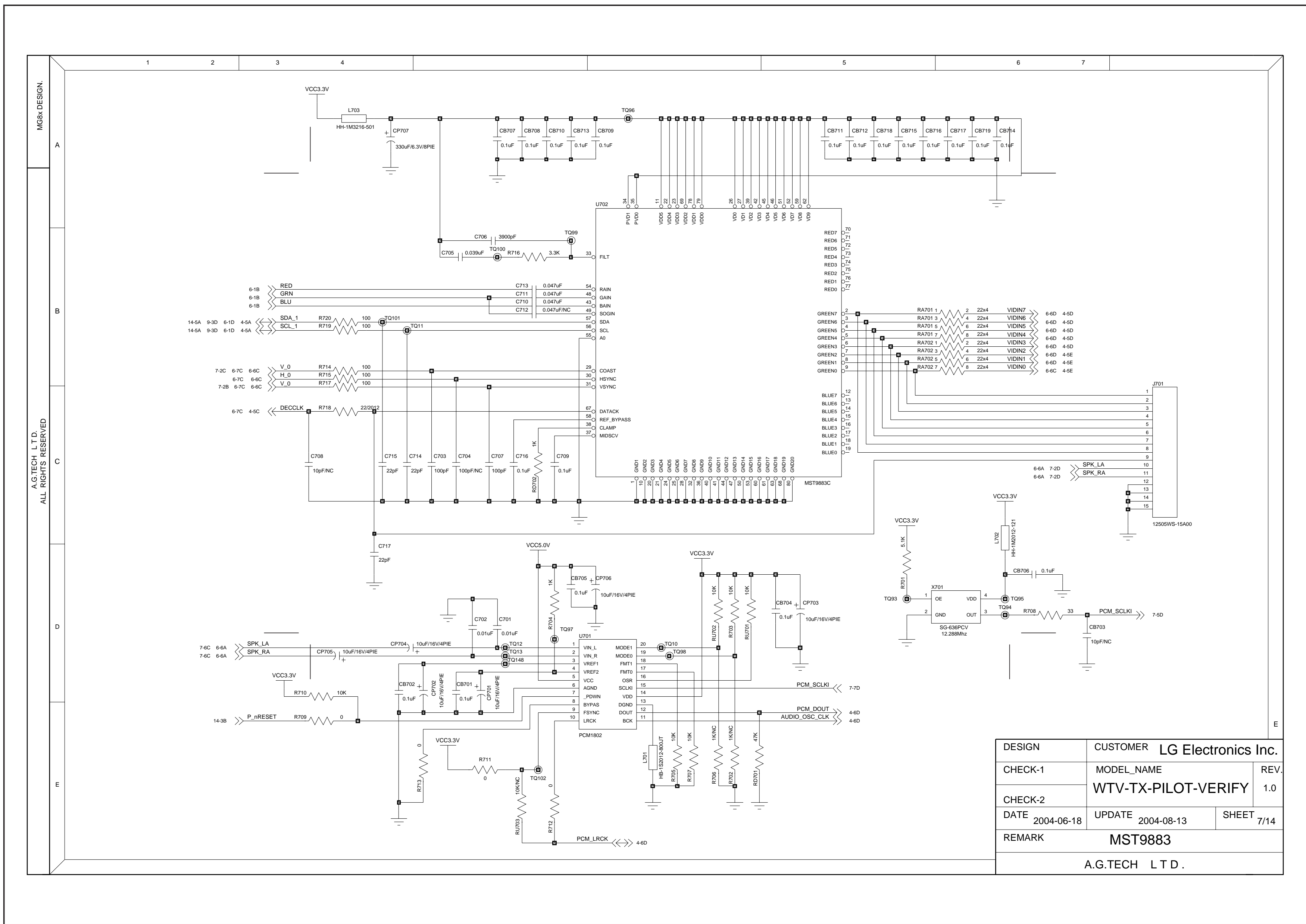




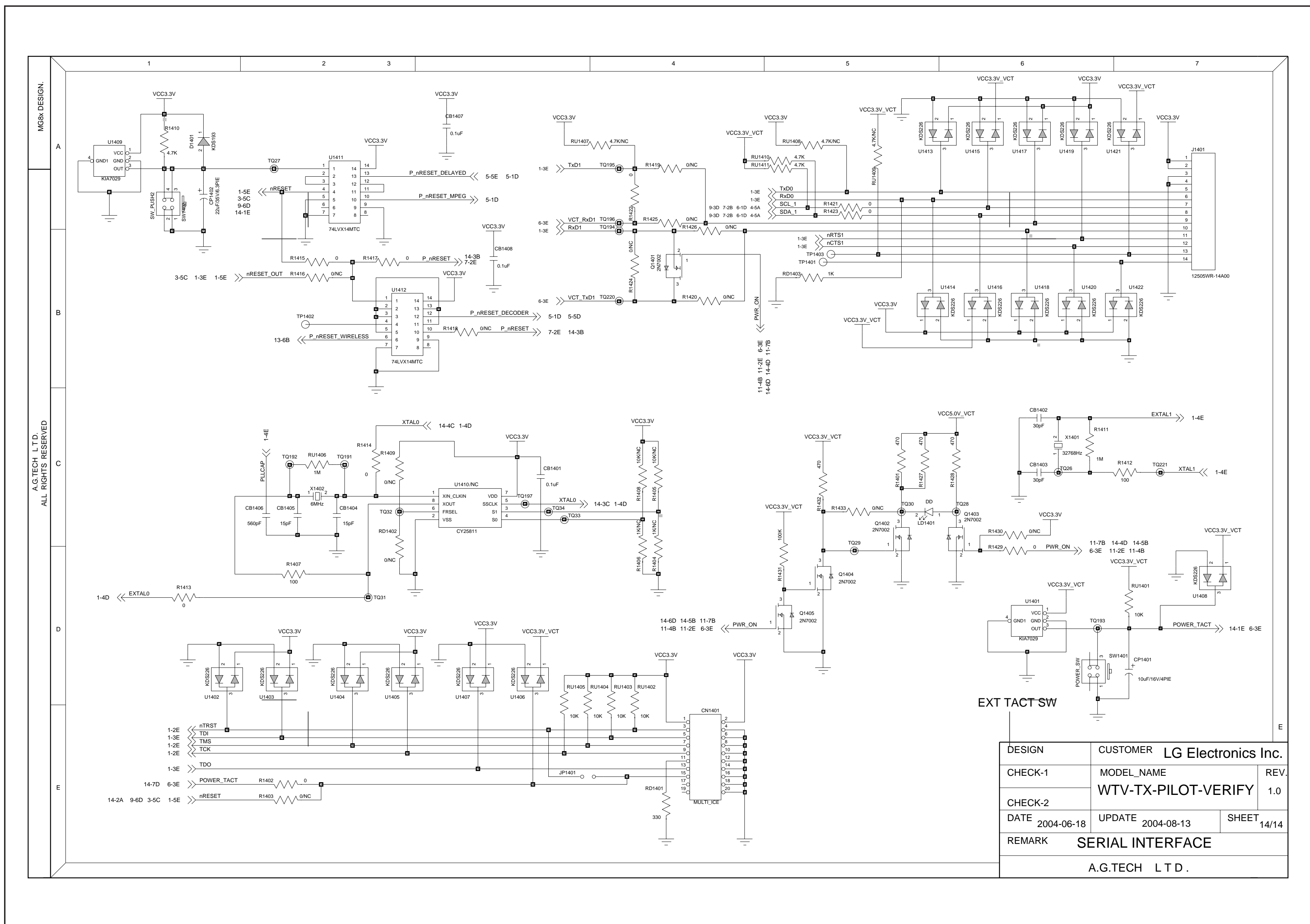
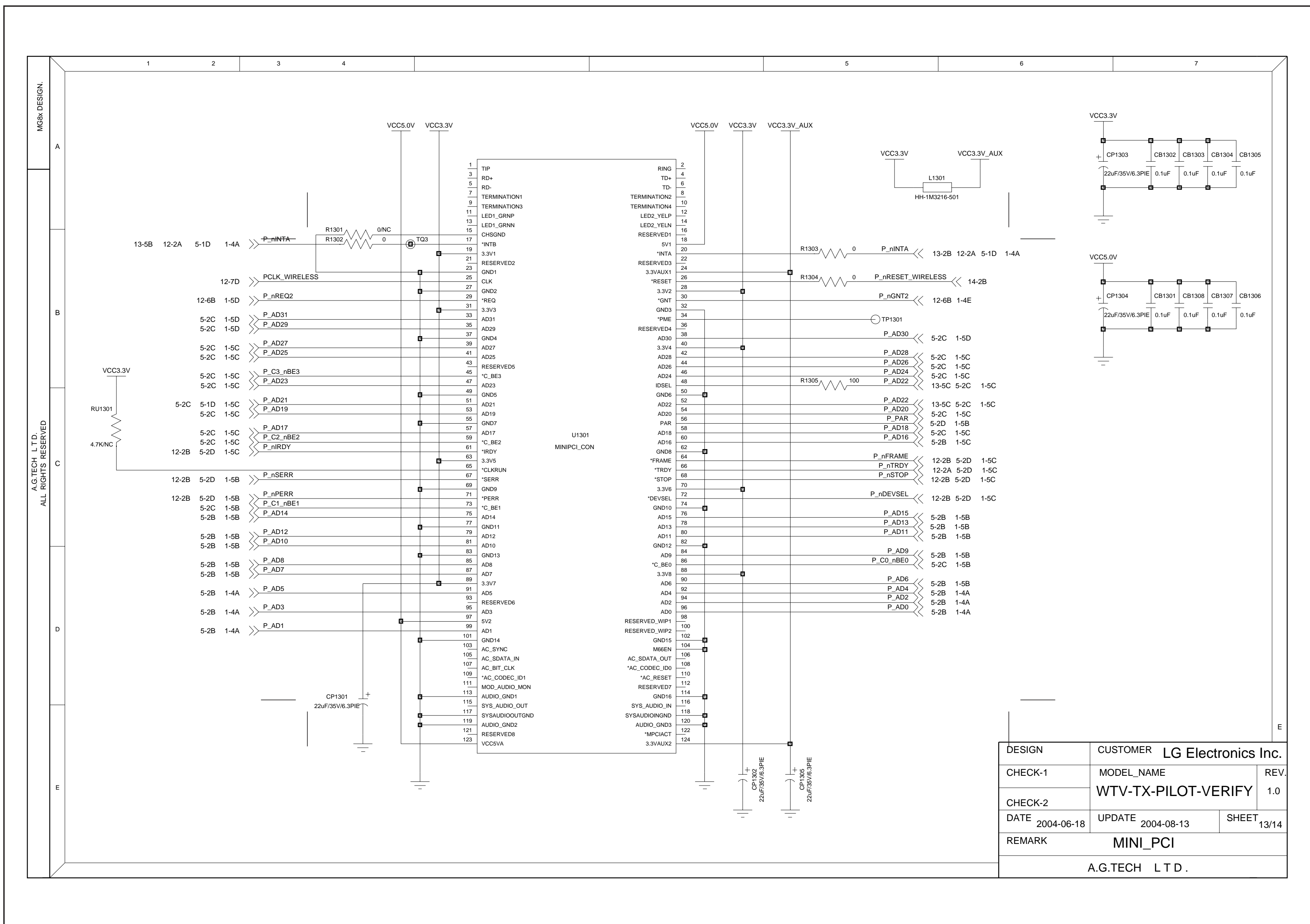
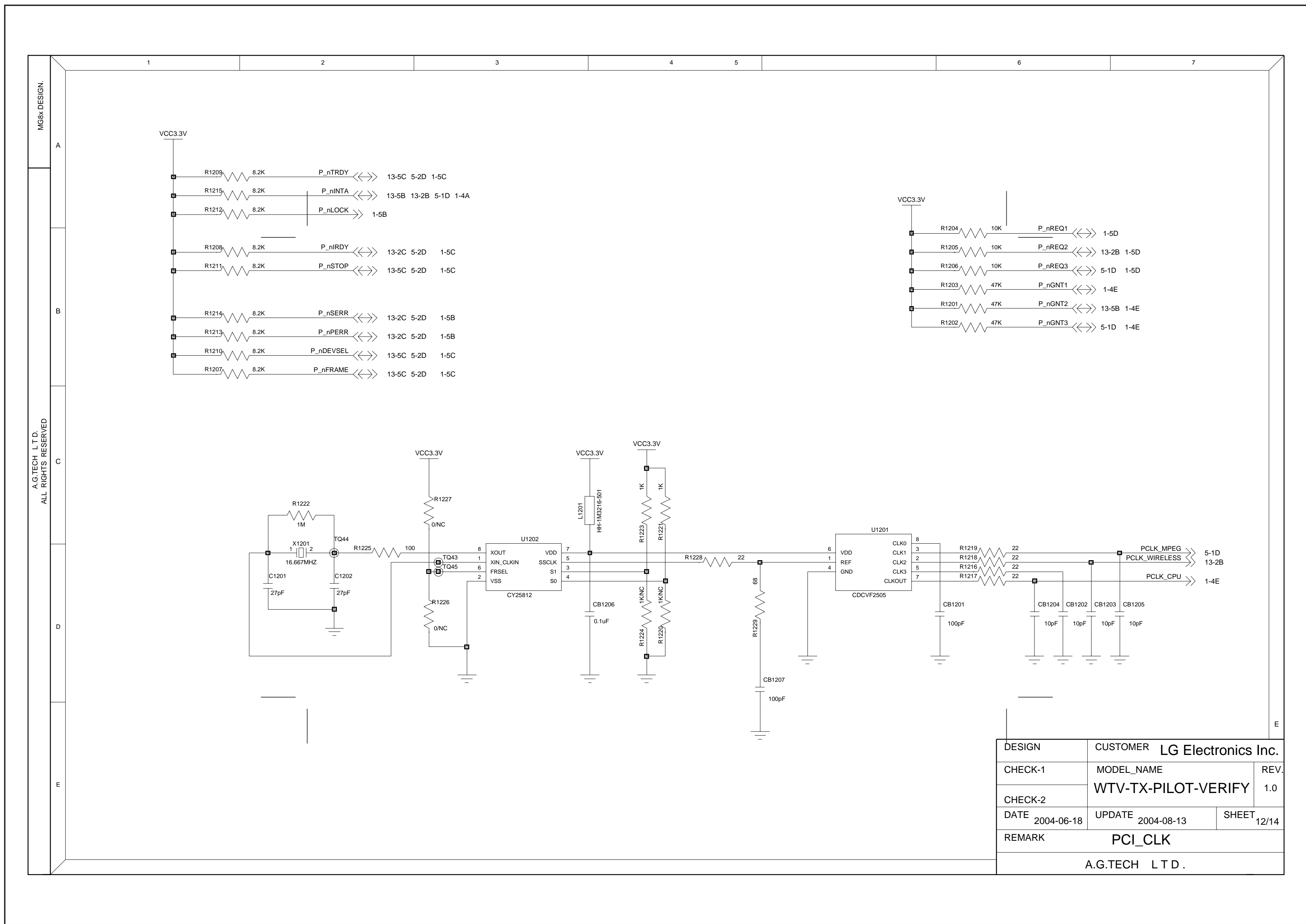
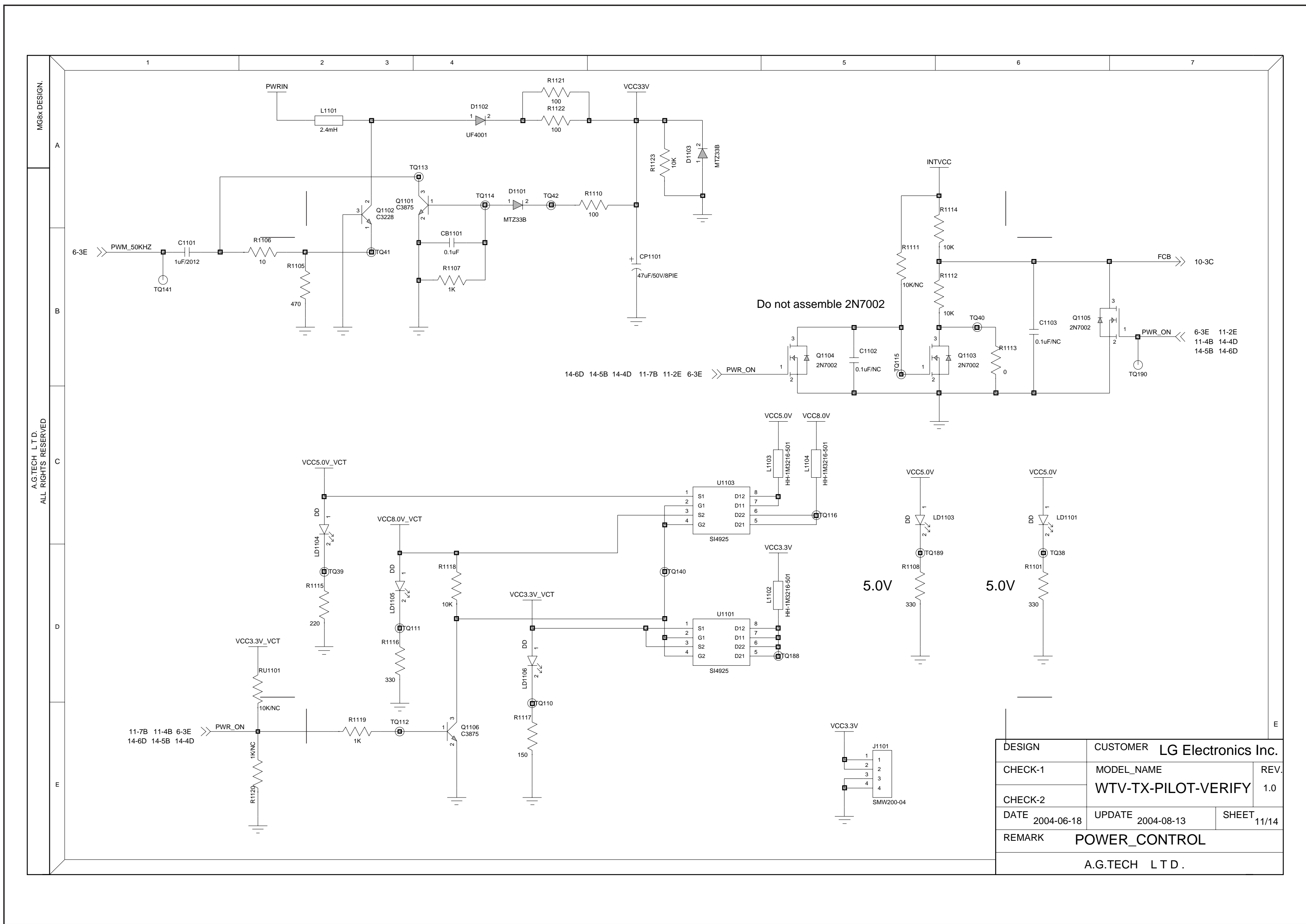


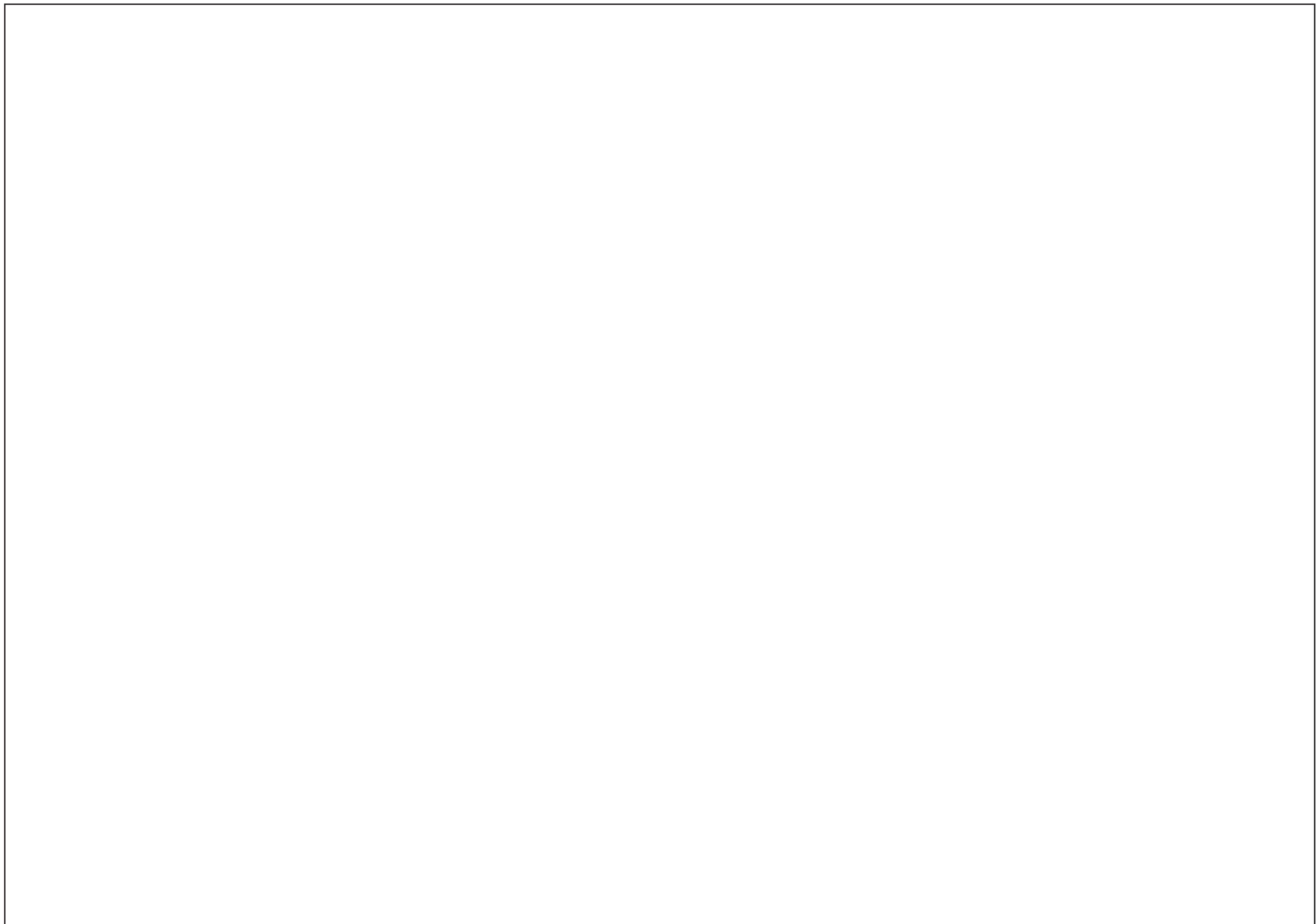
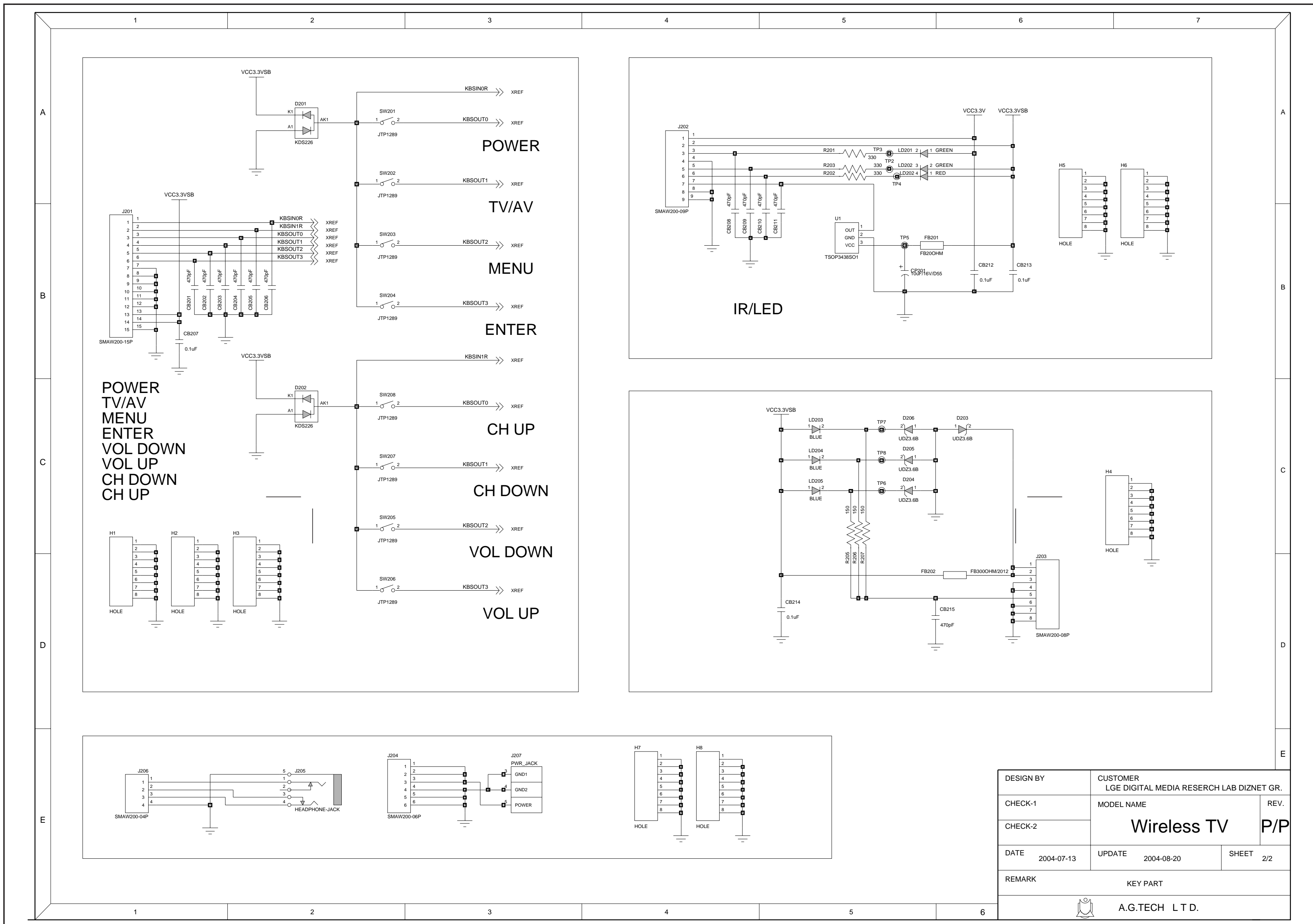
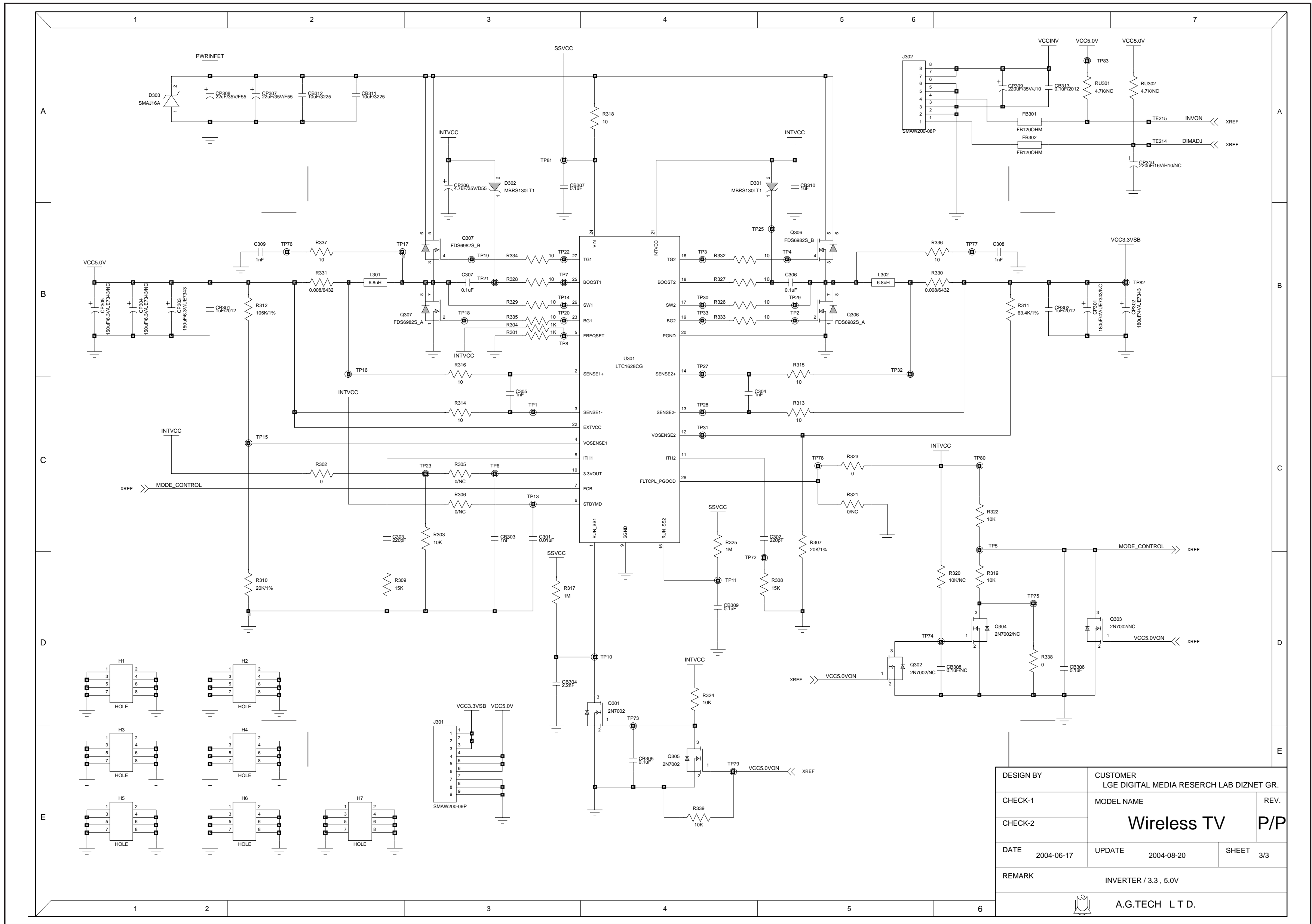
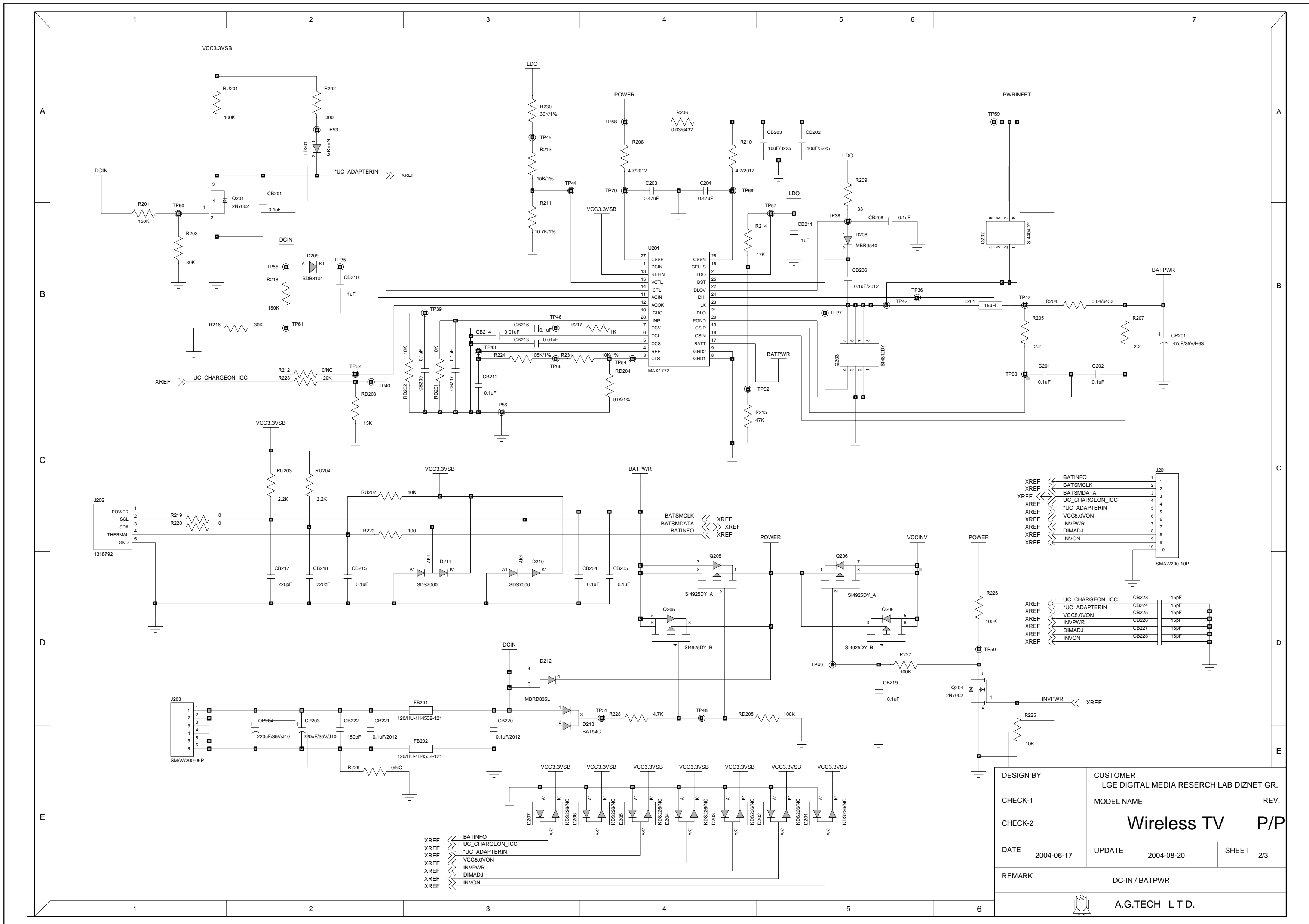
















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